

2020



Furbearer Program Annual Report



Missouri Department of Conservation

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Welcome Letter

The Missouri Department of Conservation's Furbearer Program works to monitor and manage the state's furbearing species for the sustainable harvest by hunters and trappers, as well as for the enjoyment of outdoor recreationalists from Missouri and around the country. This is done with the help of the state's hunting and trapping community, volunteers who help run surveys and report sightings, and the financial support received from the one-eighth of one percent Conservation Sales Tax, permits sales and income generated by the fish and wildlife tourism. Missouri is fortunate to have a wide range of furbearing species. From the charismatic larger mammals like coyotes and bobcats to the small and rare long-tailed weasel, our natural areas contain many furbearers for us to enjoy.

We would like to thank everyone who has helped us in our efforts. Last year, bow hunters recorded furbearer sightings for over 87,000 hours to help compile our Archer's Index. We received reports of sightings of rare furbearer sightings of badgers, least weasels and long-tail weasels as well as black bear and mountain lion reports. Volunteers helped us with our state-wide Sign Station Surveys. Hunters and trappers provided teeth from harvested bobcats and otters to help monitor the populations.

With everyone's cooperation, we can enjoy seeing and harvesting our furbearing species in the state for generations to come.

Thank you

-Missouri Department of Conservation Furbearer Program

Annual Highlights

- ❧ The Furbearer program began a photo-capture study to determine the presence of spotted skunks and gray fox in the state. The plains spotted skunk and prairie gray fox are candidates for listing under the federal Endangered Species Act. This study will help provide information to inform a decision as to whether either species should be listed federally. To collect data, the team has deployed a large number of motion sensor game cameras, mainly in the southern part of the state where it is believed the densest population of these species are located.
- ❧ The program continued receiving public reports of rare furbearer species, including badgers, least weasel, and long-tail weasel. The program also collects reports of sightings of mountain lions and black bears.
- ❧ Four new furbearers with record-weights were identified during the 2019-2020 season. This included a bobcat from Worth County that weighed 38 lbs. 7.5 oz., a coyote from Maries County that weighed 51lbs. and 8 oz., a muskrat from Cass County that weighted 4 lbs. 5.3 oz., and a beaver from Chariton County that weighed 81 lbs. See the complete list of Record Furbearers on page 44 for more information.
- ❧ Check the Department website for updates on projects and sightings. Black bear and mountain lion information is no longer included in this annual report as the websites contain the most up-to-date information. There were no new wolf confirmations during this reporting period.

Introduction

Missouri's wild fur market has been monitored annually since 1940, with some information dating back to 1934. Over time, tremendous fluctuations in the harvest of Missouri's primary furbearing species have been observed as both market and social trends changed. The Missouri Department of Conservation (MDC) monitors the fur market within the state using mandatory fur dealer transaction records, mandatory pelt registration of bobcats (since 1980) and river otters (since 1996), and information gathered at fur auctions. The information in this report is based on the harvest by both trappers and hunters.



The number of Fur Dealer Permits issued by MDC peaked at 1,192 during the 1945-46 trapping and hunting season. In 2020, MDC issued **32 Resident Commercial Fur Buyer Permits**, one more than was issued in 2019, and **6 Non-Resident Commercial Fur Buyer Permits**, four less than were issued in 2019.



Permits to harvest Missouri furbearers by trapping methods were first required in 1953. The number of issued Resident Trapping Permits peaked during 1980-81 at 13,248 and reached an all-time low in 2000-01 at 2,050 permits issued. During the 2019-20 trapping season, MDC issued 6587 **Resident** and **365 Non-Resident Trapping Permits**.

The highest peak of total pelts harvested reached 834,935 in 1940-41 (over 70% were opossum and skunk pelts) and reached the second highest peak in 1979-80 at 634,338 when average raccoon pelt values were estimated at \$27.50. The economic value of harvested fur also peaked in 1979-80 at over \$9 million. Pelt values declined dramatically during the late 1980s and through the mid-1990s. As a result, the number of participants also fell to all-time lows. The international fur market is at an all time low due to declining prices, the disruptive Covid-19 pandemic and the resulting world-wide recession. Additionally, North America's largest fur auction house, North American Fur Auctions filed for bankruptcy earlier this year.

The first section of this annual report describes the methods used to annually monitor the status of furbearer harvests and populations, which includes tracking furs harvested and sold, as well as auction prices for common furbearing species. Additionally, annual sign station surveys are conducted in 25 counties every year since 1977 and the Archer's Index is compiled from bowhunter observations which

have been done since 1983. For less common species, public reports of sightings play an important part in tracking frequency and locations of those species across the state.

In Section II, each species is broken down using the metrics described in the methods section. The use of long-term data sets allows for the comparison from year to year and more importantly the long-term trend of each species.

For more information on any of these reports, please contact Laura Conlee at Laura.Conlee@mdc.mo.gov or visit www.mdc.mo.gov.



SECTION I: Annual Furbearer Monitoring Methods



Fur Harvest and Auction Price Comparisons

Individuals interested in buying or selling fur in Missouri (i.e., fur dealers) must obtain a commercial permit from MDC. Permit requirements include maintaining and submitting records of all fur transactions (e.g., buying, selling, retaining inventory, etc.). Data collected from fur dealers provide MDC an estimate of furbearer harvest. Additionally, bobcat and river otter harvest numbers are gathered from mandatory pelt registration, including tagging, as required by CITES for export outside the United States.

The Missouri Trappers Association (MTA) hosts fur auctions each year in the state of Missouri, providing opportunity to buy or sell harvested pelts. In the 2019-20 season, MTA hosted just one auction in February. Pelt prices are averaged from all fur sold, including green, finished, and damaged furs. This year's MTA auction prices dipped from last year's minor increases with all species seeing lower prices except striped skunks (Table 1).



Table 1. Furbearer harvest and pelt prices in Missouri over the last three harvest seasons.

Species	2019-20		2018-19		2017-18	
	Pelts sold ¹ or registered*	Pelt Prices from MTA Auctions ²	Pelts sold or registered*	Pelt Prices from MTA Auctions ²	Pelts sold or registered*	Pelt Prices from MTA Auctions ²
Raccoon	24,652	\$3.97	22,562	\$5.04	26,340	\$4.86
Opossum	782	\$1.32	593	\$2.31	1,296	\$1.57
Muskrat	3,635	\$2.63	3,344	\$4.69	6,590	\$2.95
Coyote	5,083	\$20.85	5,164	\$22.43	5,177	\$13.66
Beaver	2,124	\$7.31	2,094	\$9.59	2,644	\$6.42
Mink	135	(m) \$3.12 (f) \$1.56	163	(m) \$9.12 (f) \$3.00	299	(m) \$7.87 (f) \$5.00
Red Fox	481	\$8.24	562	\$15.99	812	\$15.24
Gray Fox	278	\$8.95	242	\$15.54	434	\$12.80
Striped Skunk	221	\$7.50	156	\$1.50	197	\$3.11
Badger	29	\$20.67	18	\$29.00	15	\$23.75
Bobcat*	2,520	\$21.47	2,161	\$47.51	3,018	\$29.48
River Otter*	1,558	\$20.55	1,412	\$29.90	2,025	\$23.46
Trapping permits issued	6,952		6,956		7,573	

¹ Number of pelts sold is based on reports received from 41 Fur Dealer Permittees.

² Pelt prices are averaged from all fur sold, including green, finished, and damaged furs.

* Bobcat and River Otter harvest numbers are based on CITES registration.

- No information available.



Overall, average pelt prices decreased by about 35% from last year (Table 2). Striped skunk was the only species to show an increase in price although there was a low number sold. All other species showed a decline in average pelt prices and most pelt prices were still lower than peak prices in 2012-2013. Mink and bobcat showed the largest decline from the previous year. The only species selling higher than their 5-year average are skunk and coyote pelts. Fur auction prices are closely monitored because, as seen in each furbearer status, fur harvest closely correlates with fur prices set at auction. Overall, fur buyers continue to house high inventories of all species and pelt prices continue to be low; therefore, the 2020-21 season will likely be similar to the last few years unless the global fur market changes.

Table 2. Furbearer pelt prices in Missouri from the annual Missouri Trappers Association Fur Auction February 22, 2020, Montgomery City, Missouri.

Species	Total Sold	Average Price	Change from 2018-2019	Change from Peak in 2012-2013	5-year Average
Raccoon	3,121	\$3.97	-21.2%	-80.9%	\$4.50
Virginia Opossum	41	\$1.32	-42.9%	5.6%	\$1.52
Muskrat	664	\$2.63	-43.9%	-77.7%	\$3.25
Coyote	912	\$20.85	-7.0%	-6.3%	\$16.33
Beaver	314	\$7.31	-23.8%	-66.3%	\$8.23
Mink	21	\$2.82	-68.1%	-88.3%	\$7.77
Red Fox	92	\$8.24	-48.5%	-78.9%	\$15.71
Gray Fox	63	\$8.95	-42.4%	-74.2%	\$13.07
Striped Skunk	30	\$7.50	400.0%	130.8%	\$4.40
Badger	9	\$20.67	-28.7%	*5339.5%	\$22.86
Bobcat	156	\$21.47	-54.8%	-81.4%	\$33.64
River Otter	154	\$20.55	-31.3%	-76.5%	\$26.05

* Change in Badger pelt price is artificially inflated because average pelt price in 2012-2013 was \$0.38 and very few pelts were sold.

Furbearer Sign Station Survey



Beginning in 1977, annual sign station surveys for furbearers are conducted each September and October. The purpose of the survey is to collect population trend information for Missouri's furbearing species. Twenty-five established routes are distributed throughout the state in 25 different counties. Routes consist of 5 segments with 10 sign stations per segment for a total of 50 stations per route. Each sign station is a 36-inch diameter circle of sifted soil (see photo to the left), spaced 0.3 miles along gravel road shoulders. A fatty acid scent disk is placed in the center of each station as an attractant. Each station is operated for one night and evaluated the following day for visitation.

Each station is described as operable or inoperable by the observer, stations with tire tracks, those destroyed by a road grader or those that have been rained on are deemed inoperable. All operable stations are included in calculations of indices, regardless of track presence, but inoperable stations are not used for calculations. Tracks are identified within the 36-inch circle of the station. Occupancy of a station by a species is recorded, but not the number of individuals per species.

In 2019, 20 routes (Figure 1) were completed with a total of 875 operable stations out of a possible 1,250. Inoperable stations were either destroyed with a road grader or had a tire track through them. The most common furbearers to visit stations were raccoon, opossum, and coyotes (Figure 2). The least common were weasels, minks, and red foxes. Non-mammalian visitors were primarily birds, such as crows.

Sign Station Surveys in 2020 will train and involve local Master Naturalist and University wildlife club volunteers, who will help to fill gaps where MDC staff are no longer able to run surveys. The use of volunteers helps ensure sign station surveys can continue to be used to monitor furbearer populations into the future and provides a unique opportunity for volunteers to participate in hands-on field work.

Species-specific population index trends from 1977 to 2019 based on the Furbearer Sign Station Survey are displayed in Section II by species. Most furbearers have an overall increasing trend except for red and gray fox populations, which have been in an overall decline since the initiation of the Sign Station Survey. These trends also are reflected in the Archer's Index and harvest records.



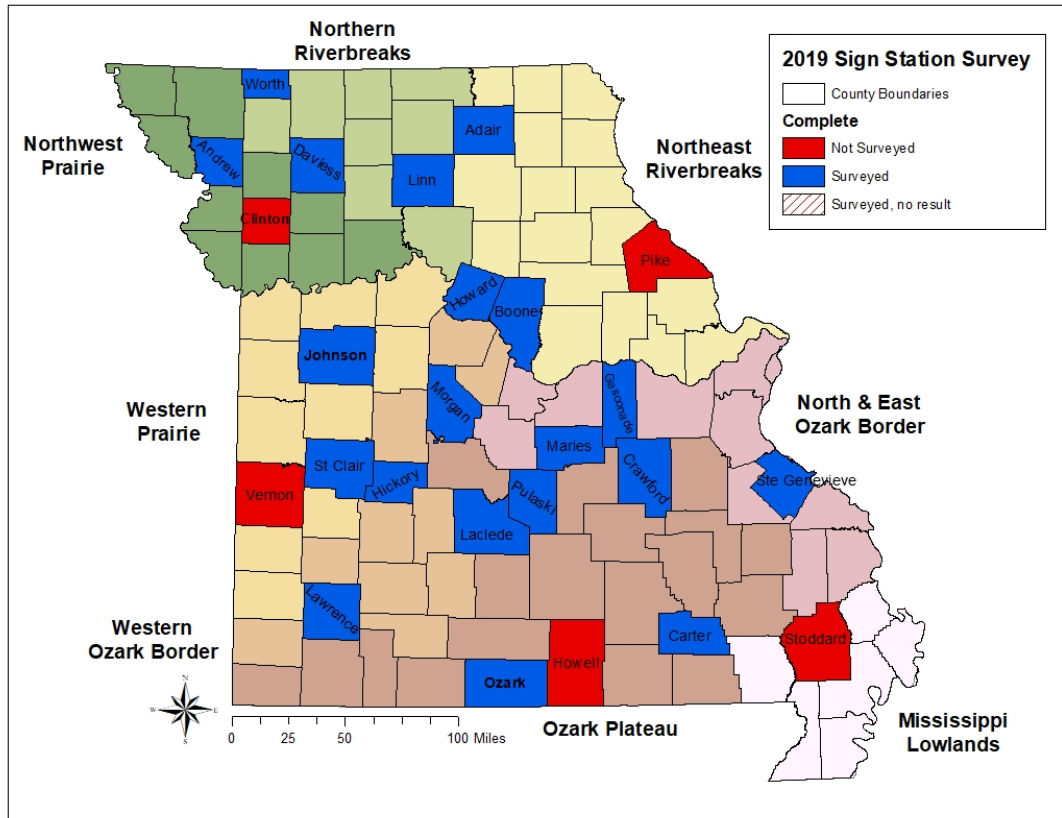


Figure 1. Missouri's 8 zoological regions and counties where surveys were completed (blue) and counties where surveys were not completed (red) in 2019.

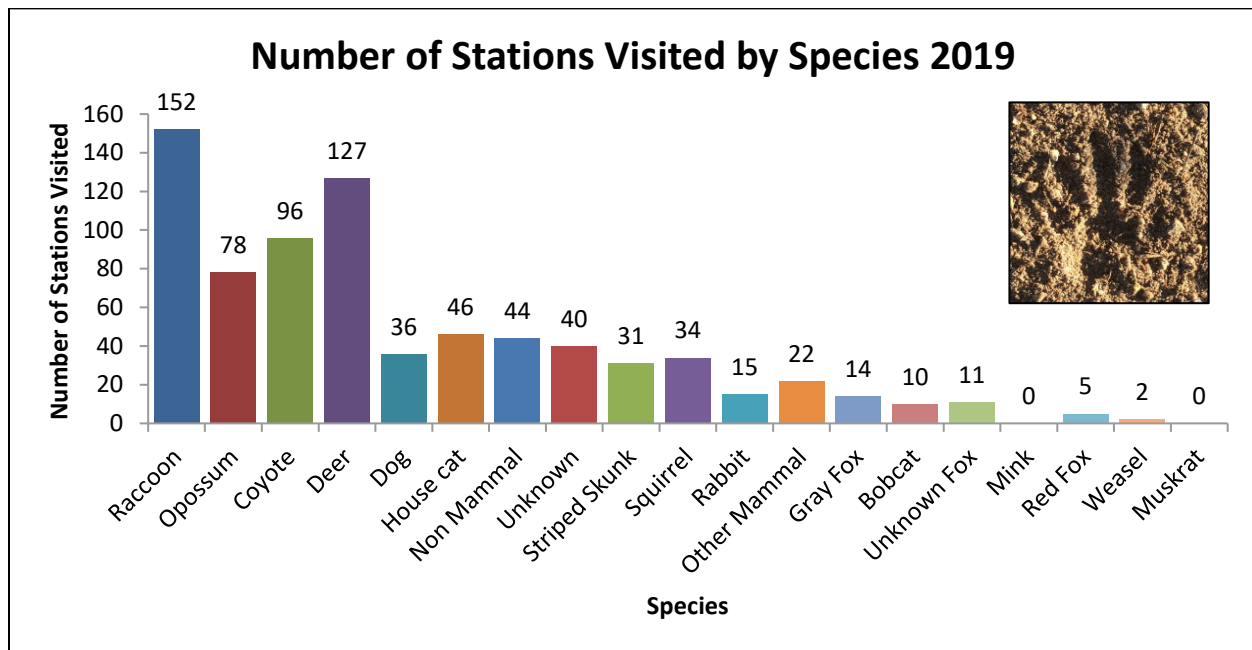


Figure 2. The number of stations visited by each mammal species, including non-furbearer species, out of 875 operable stations in the 2019 Missouri Furbearer Sign Station Survey.

Archer's Index of Furbearer Populations

Missouri Department of Conservation has conducted annual surveys of wildlife populations via the Bowhunter Observation Survey for 37 consecutive years (1983-2019). Each fall, several thousand archery deer and turkey hunters keep daily observation records of furbearers, other small game animals, deer, and turkeys. Archers volunteer through post-season surveys, articles in the *Missouri Conservationist* magazine, and during sign-ups at bowhunter club meetings and other outdoor events. Archery hunters are asked to record the number of hours hunted, during both morning and evening hunts, and to use a standardized daily diary to record hours and sightings of wildlife. MDC uses the number of sightings of each species divided by the total number of hours hunted statewide to calculate a sighting index which is expressed as sightings per 1,000 hunter hours, called the Archer's Index.

Wildlife population indices calculated from archers' diaries are useful trend indicators for terrestrial wildlife species, such as coyotes, raccoons, foxes, and bobcats. Hunters are well distributed statewide with volunteers in all counties during most years. Bowhunters averaged 56,496 hours per year in the stand over the last 37 years and ranged from 30,990 hours in 1985 to 98,898 hours in 2017 (See Appendix A). In 2019, hunters spent **87,821 total hours** in the stand, which is the third highest recorded hours in the history of the survey.

Line graph representations of Archer's Indices for several furbearer species are shown in Section II by species. Based on these indices, long-term raccoon, coyote, and opossum observations suggest population increases. Striped skunk and bobcat populations are relatively steady, while observations suggest a downward trend for red and gray fox populations. Wildlife population indices are also depicted by county in Appendix B.



Monitoring and Demographic Assessment of River Otters and Bobcats in Missouri



River otter and bobcat are commonly sought-after furbearers in Missouri and there are no harvest level restrictions on river otters or bobcats. Various population indices suggest these species are not in danger of being over harvested; however, harvest of these species has been challenged in a number of states. MDC began a research project to document the sex and age of harvested animals and measure harvest effort by trappers for these species. These and

other data will enable MDC to utilize Statistical Population Reconstruction (SPR) to generate abundance estimates and measure the impact of harvest and regulations on river otter and bobcat populations. Through SPR, the MDC will have a better understanding of the relationship between harvest rates and demographics of each species.

In order to utilize SPR, MDC collects information on harvested river otter and bobcat through mandatory registration and voluntary tooth submission. Trappers are asked to remove one of the lower canine teeth from each river otter and bobcat they harvest so that age-at-harvest can be determined. Sex, date of harvest, method, and effort are collected when river otter or bobcat are tagged or registered with the Department.

A total of 480 lower canine teeth from the 2018-19 harvest season and several teeth from previous harvest seasons (not depicted below) were collected from both river otters and bobcats and sent for age analysis. The samples sent for aging consisted of 187 bobcat teeth (Figure 25) and 293 river otter teeth (Figure 29). Age data for the 2019-2020 season are not yet complete.



SECTION II: Missouri Furbearer Status 2019 - 2020

Raccoon Harvest and Population Trends

Raccoon harvest in 2019-20 totaled 24,652 and included individuals harvested by both trapping and hunting methods (Figure 3). This year's harvest was up 9.261% from last year. Harvest is down 6.41% from two years ago, following a decrease in pelt prices. The 2019-20 season resulted in the second lowest raccoon harvest since 1942 following last year's record low. Average raccoon pelt prices decreased by 21.2% this year from 2018-19 to \$3.97 and are down 80.9% from the last price peak in the 2012-13 season.

Population trends are derived from the Archer's Index Survey and the Sign Station Survey. For a detailed description of these surveys, see Section I of this report. During the hunting season of 2019, bowhunters submitted the number of raccoons observed during archery hunting hours and the number of hours spent afield. Based on these observations, the number of raccoons sighted per 1,000 hours increased by 36% to



47.5 in 2019 from 35.0 in 2018 (Figure 4). Presence of raccoon tracks at furbearer sign stations also decreased slightly to an index of 152.0 in 2019 from 176.3 in 2018 (Figure 5). Indices derived from Bow Hunter Observation Surveys and Sign Station Surveys indicate an overall increasing trend in raccoon population abundance. Short-term fluctuations are normal and expected due to the dynamic nature of raccoon populations. Based on harvest and pelt prices of previous trapping and hunting seasons, harvest pressure is expected to remain stable for the 2020-21 season.

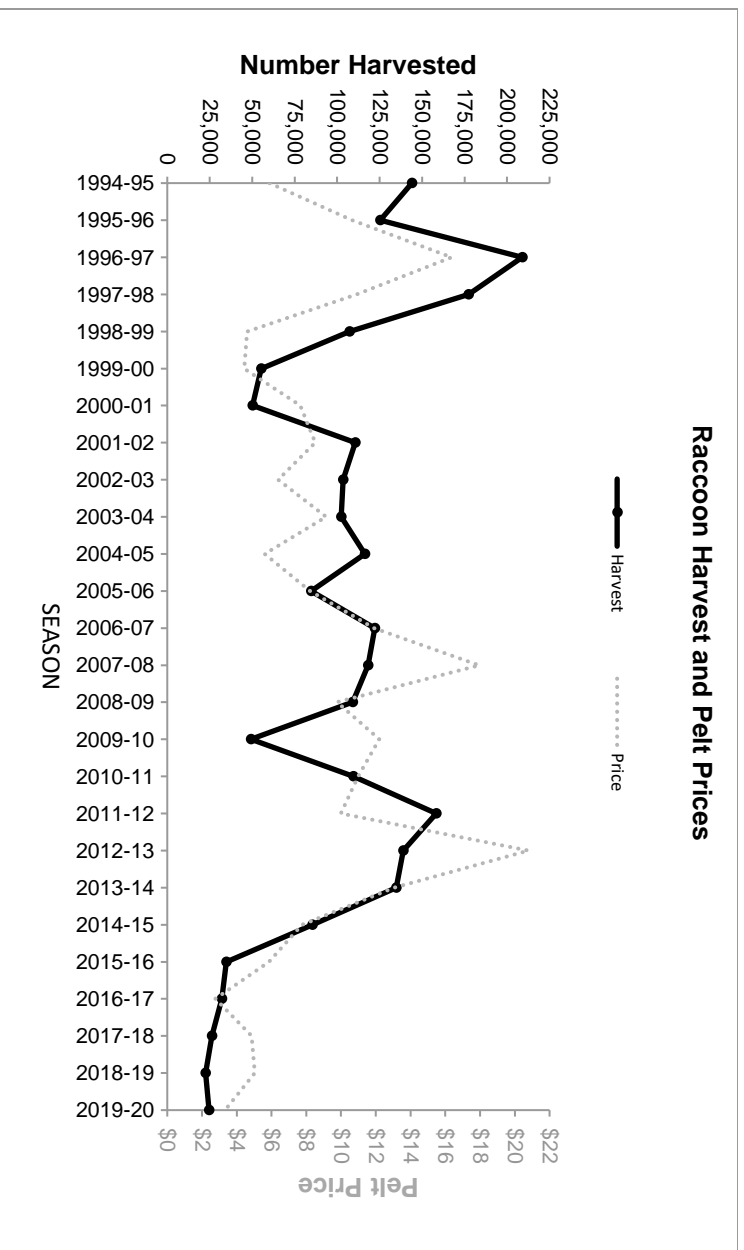


Figure 3. Comparison of Missouri raccoon harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt prices are the average price from the Missouri Trappers Association Fur Auction.

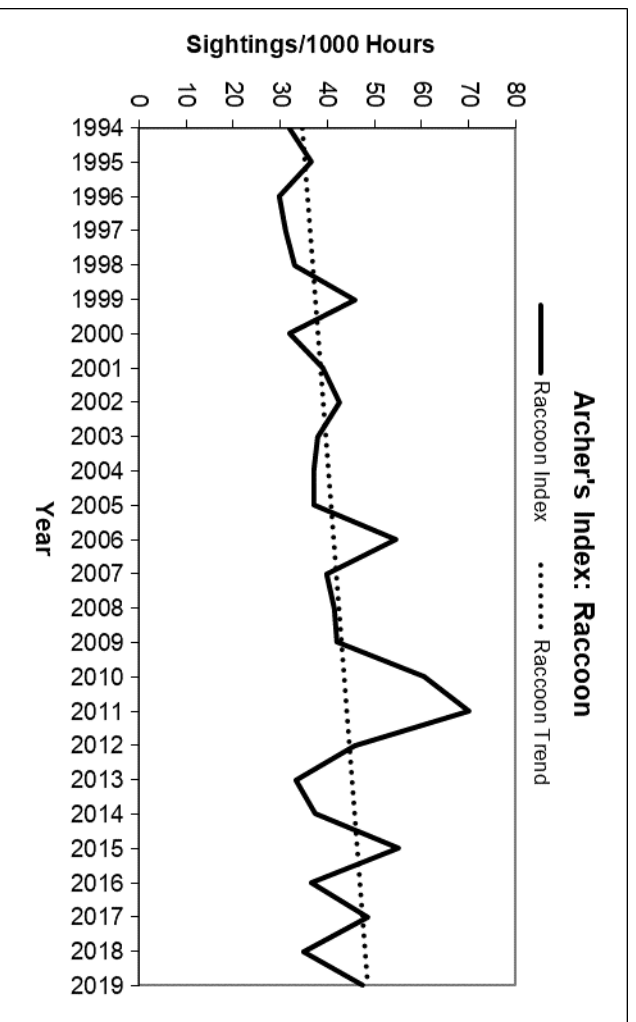


Figure 4. Raccoon population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

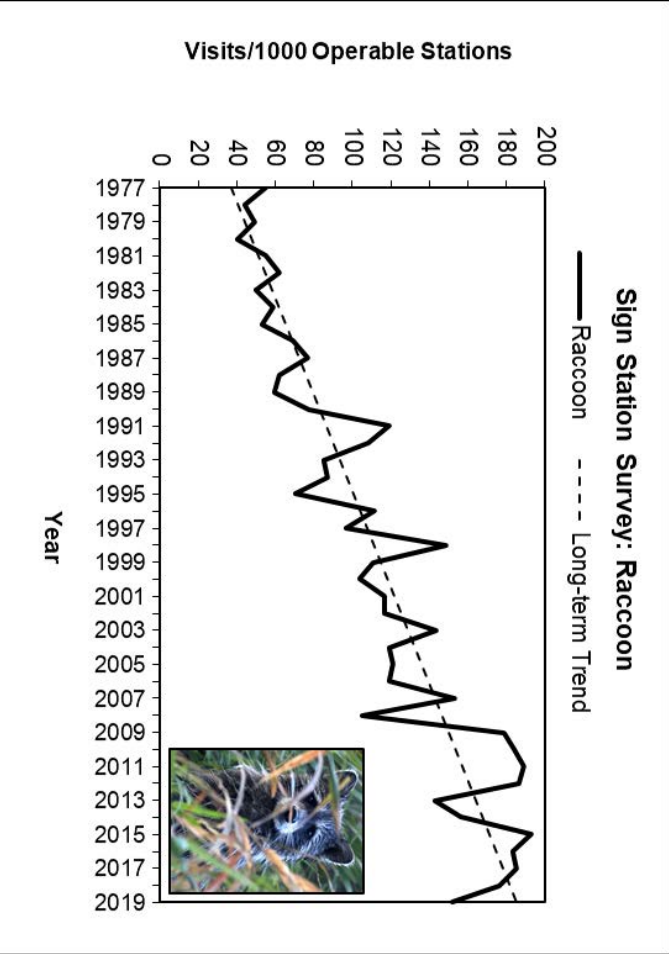


Figure 5. Missouri raccoon population trends based on the Furbearer Sign Station Survey Index.



Virginia Opossum Harvest and Population Trends

Virginia opossum harvest in 2019-20 totaled 782 (Figure 6). This year's harvest was up 31.87% from last year's harvest of 593 individuals. Harvest is down 39.66% from two years ago, despite a continued increase in pelt prices from the 2015-16 low of \$0.64. Average Virginia opossum pelt prices for 2019-20 decreased 42.9% and are just below the 10-year average. The 2019-20 season also resulted in the second lowest Virginia opossum harvest on record following last year's record low.



Population trends are derived from the Archer's Index and Sign Station Survey. Based on bowhunter observations, the number of Virginia opossums sighted per 1,000 hours increased by 59% to 13.3 in 2019 from 8.4 in 2018 (Figure 7). Presence of Virginia opossum tracks at furbearer sign stations decreased slightly to an index of 78.0 in 2019 from 108.0 in 2018 (Figure 8). Despite these observations, the long-term population trend data from surveys suggest populations are stable and increasing slightly over time.

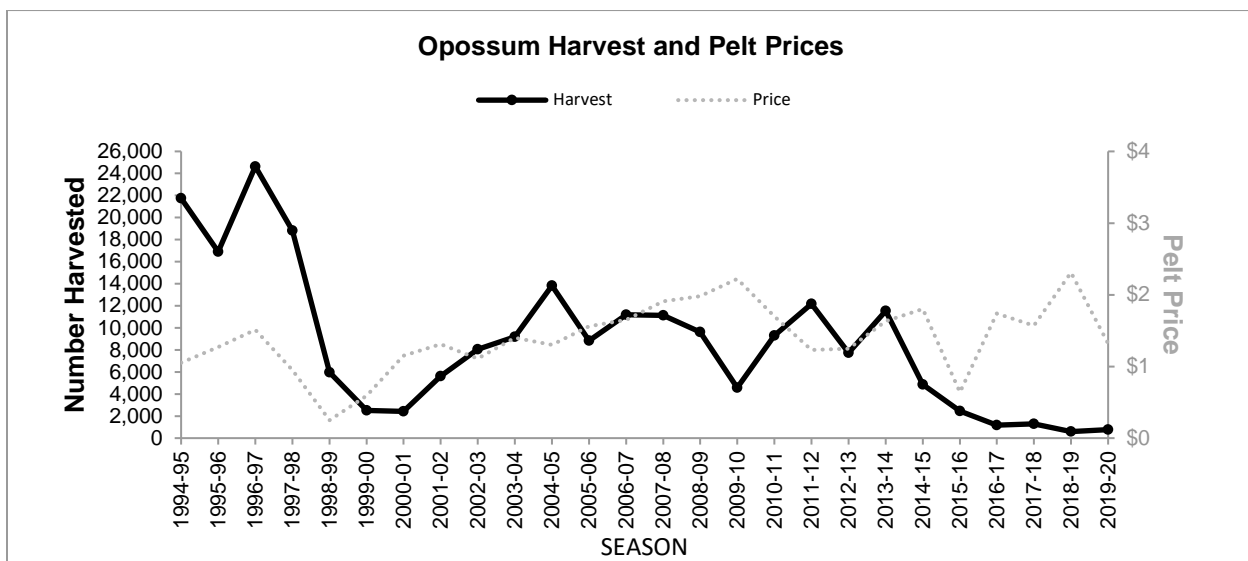


Figure 6. Comparison of Missouri Virginia opossum harvest and pelt since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

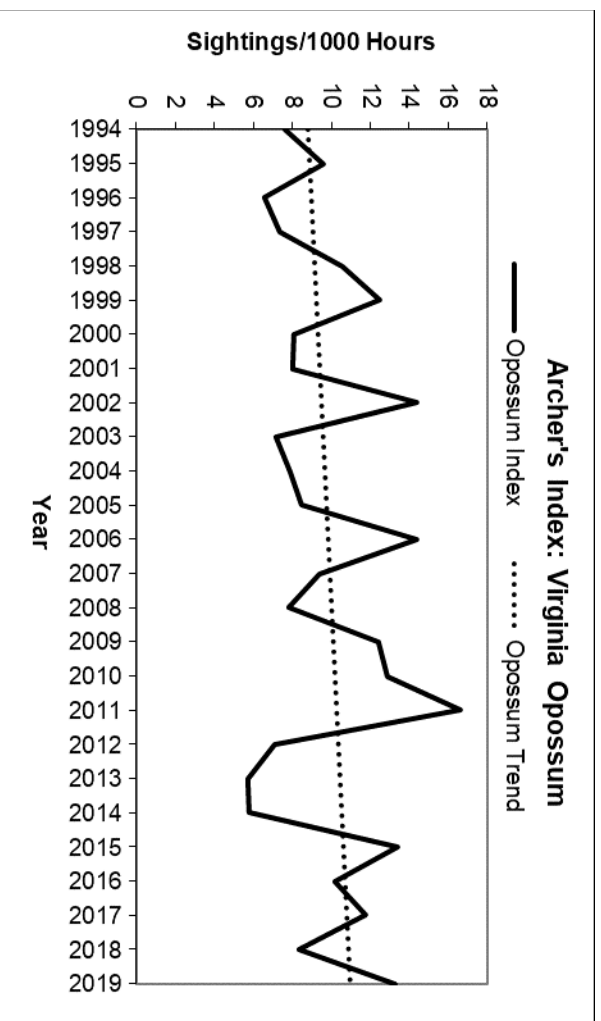


Figure 7. Virginia Opossum population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

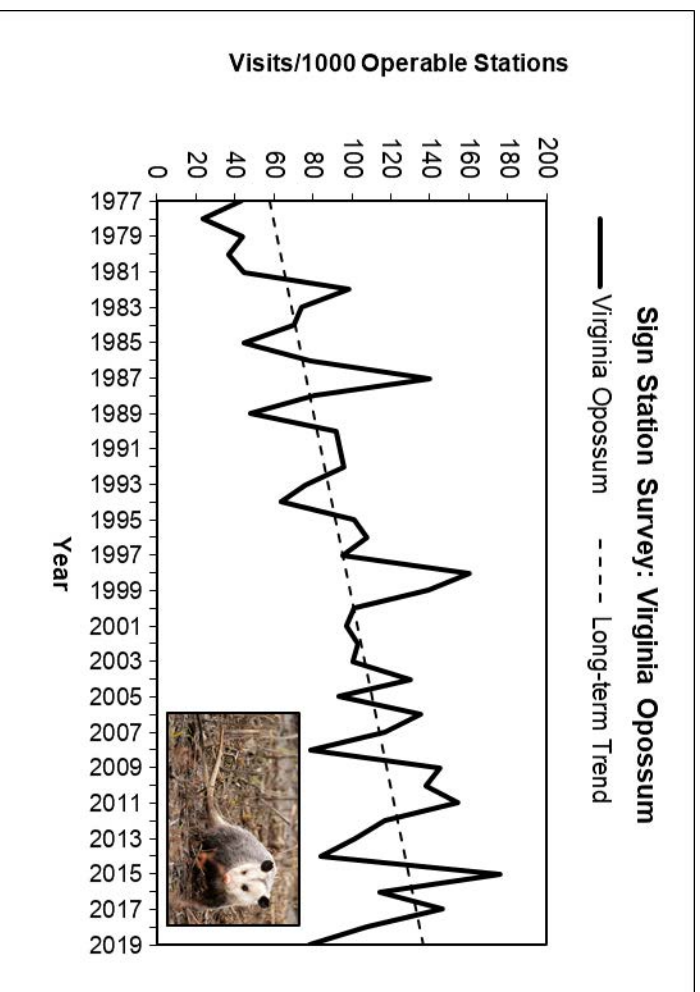


Figure 8. Missouri Virginia opossum population trends based on the Furbearer Sign Station Survey Index.

Coyote Harvest and Population Trends

Coyote harvest, based on Commercial Fur Buyer reports, during the 2019-20 furbearer season was only down 1.57% from the 2018-19 season with 5,083 individuals harvested (Figure 9). Predator hunting continues to increase in popularity, and survey data suggest over 25,000 people hunt coyotes annually. Many trappers enjoy the challenge of catching coyotes, and this is reflected in the harvest totals. Coyote pelt prices averaged \$20.85 this year. However, coyote pelts are becoming increasingly popular in the international fur market, which may influence the local market for this species (NAFA, 2019; FHA, 2019).



Population trend data from the Archer's Index (Figure 10) and Sign Station Survey (Figure 11) for coyotes suggest populations are currently stable with an overall increasing trend since the 1970s when the Sign Station Survey began and the early 1980s when the Archer's Index began. Based on bowhunter observations, the number of coyotes sighted per 1,000 hours nearly remained the same with 25.2 in 2019 from 25.4 in 2018. Presence of coyote tracks at furbearer sign stations increased slightly to an index of 96.0 in 2019 from 77.6 in 2018.

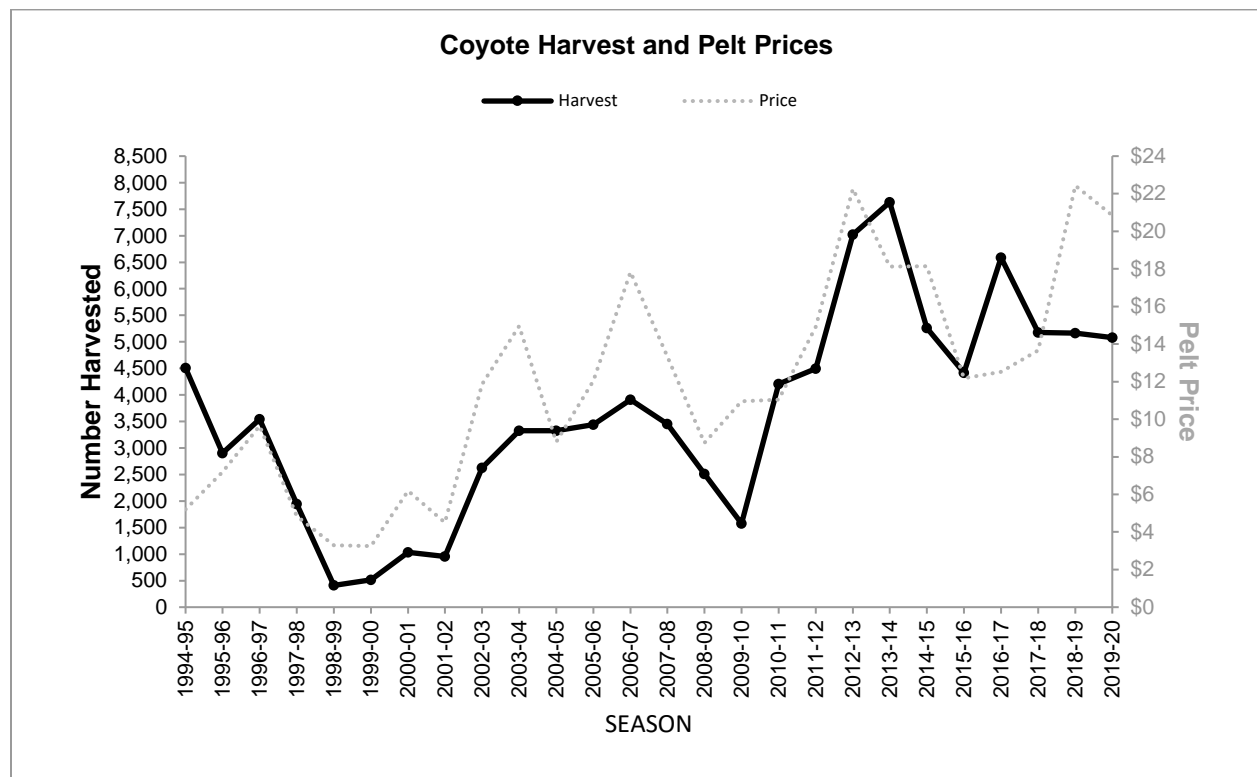


Figure 9. Comparison of Missouri coyote harvest and pelt prices over the last 25 years. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

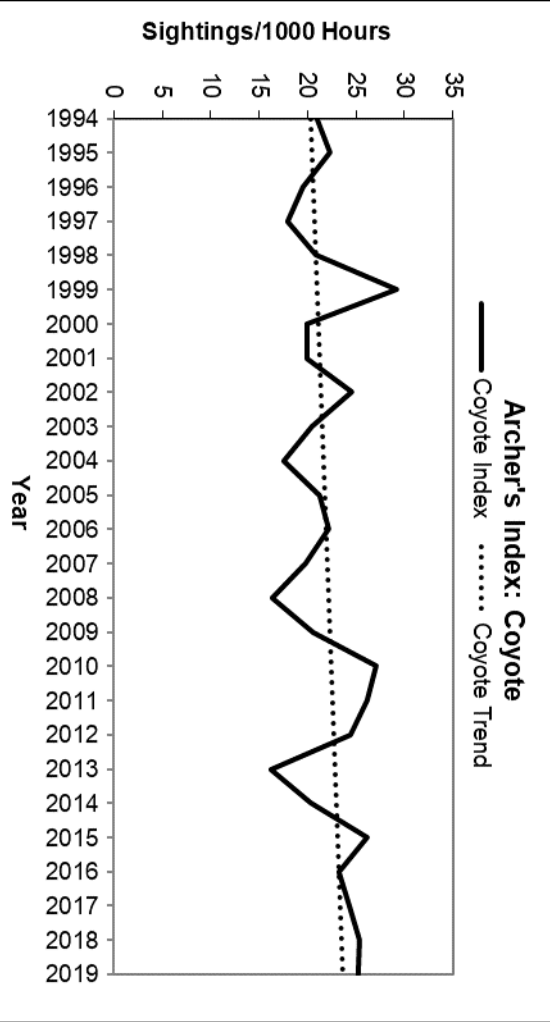


Figure 10. Coyote population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

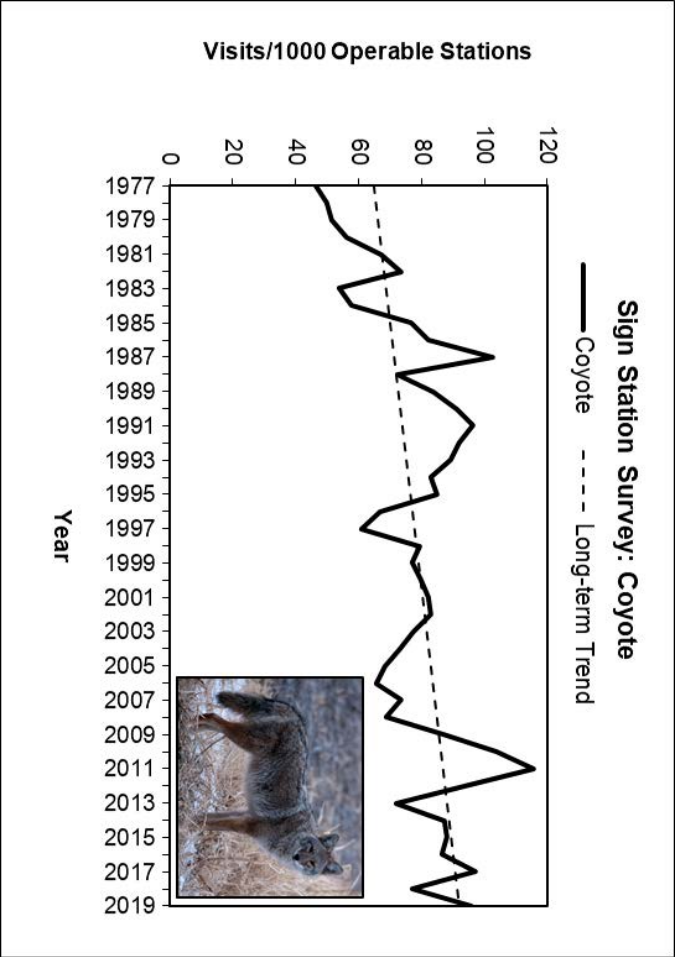


Figure 11. Missouri coyote population trends based on the Furbearer Sign Station Survey Index.



Fox Harvest and Population Trends

Red fox harvest during the 2019-20 season decreased 14.18% from 562 to 481 individuals harvested (Figure 12). **Gray fox harvest** increased in 2019-20 by 14.88% to 278 individuals compared with last year's harvest of 242 (Figure 13). Fox harvest is typically a by-product of bobcat or coyote trapper effort.

Population trends are derived from the Archer's Index and Sign Station Survey. Bowhunter observations and sign station surveys offer a long-term perspective suggesting declines in both red and gray fox populations (Figures 14 and 15). Long-term fox population declines may be the result of interspecific competition with coyotes and bobcats. Another possible strain on gray fox populations is the increasing population of raccoons and the associated distemper virus, for which gray fox may be particularly vulnerable. Regional variability in fox abundance likely occurs, including around suburban areas where foxes may seek refuge from coyotes or respond to increased prey availability, but the overall long-term trend for both fox species indicates a decline in abundance.



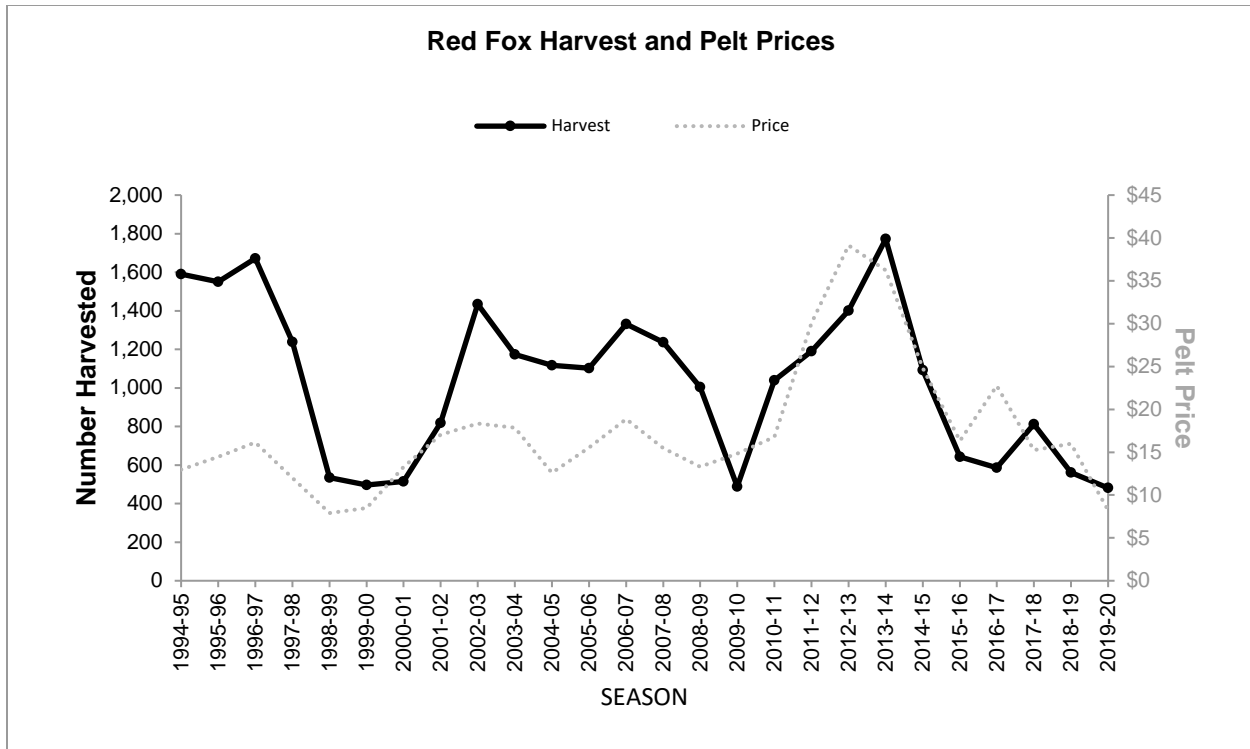


Figure 12. Comparison of Missouri red fox harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

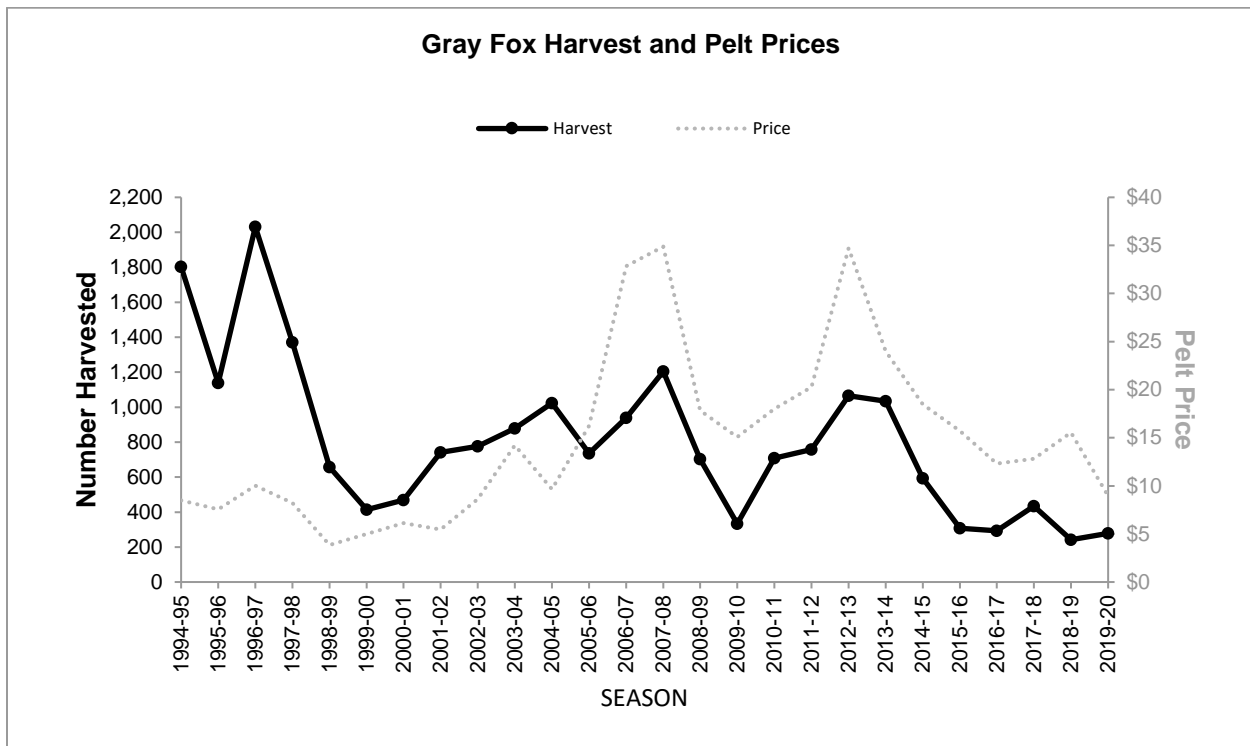


Figure 13. Comparison of Missouri gray fox harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

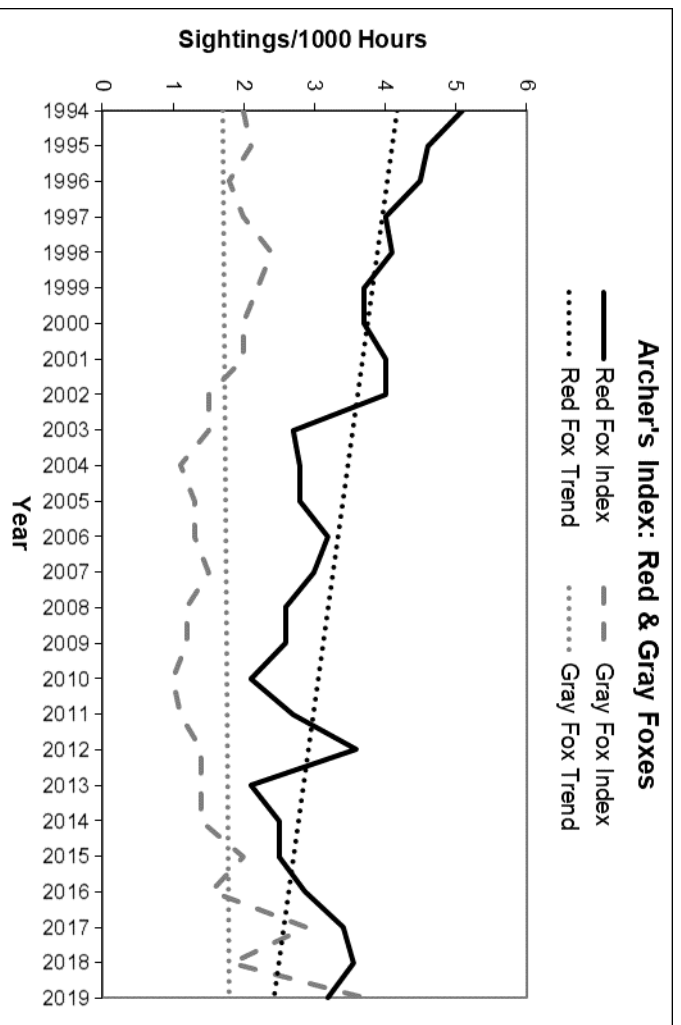


Figure 14. Missouri fox population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

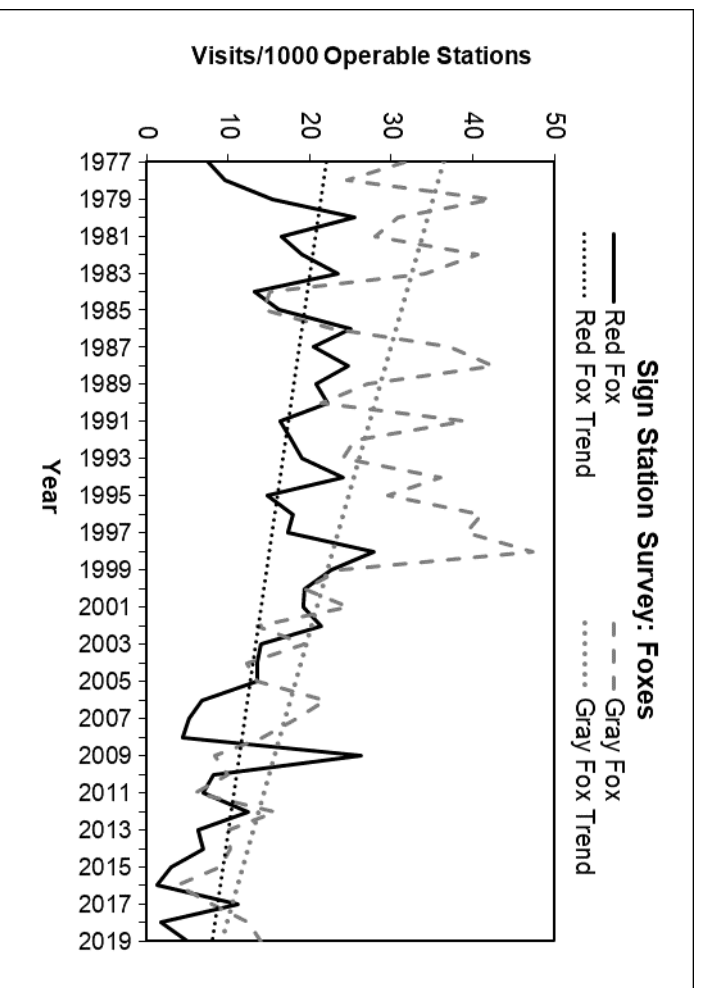


Figure 15. Missouri red and gray fox population trends based on the Furbearer Sign Station Survey Index.

Striped Skunk Harvest and Population Trends

Striped skunk harvest in 2019-20 totaled 221 with most individuals harvested by trapping (Figure 16). This year's harvest was up 41.67% from last year's harvest of 156 individuals. Harvest is up 12.18% from two years ago, following erratic pelt prices since 2016-17. Average striped skunk pelt prices for 2019-20, which continued to be highly volatile, increased 400% from 2018-19 from \$1.50 to \$7.50. The 2019-20 season resulted in the highest ever pelt price for striped skunk.



Population trends are derived from the Bowhunter Observation Survey and Furbearer Sign Station Survey. Population trend data from the Archer's Index (Figure 17) and Sign Station Survey (Figure 18) for striped skunk continue to suggest that the population is stable.

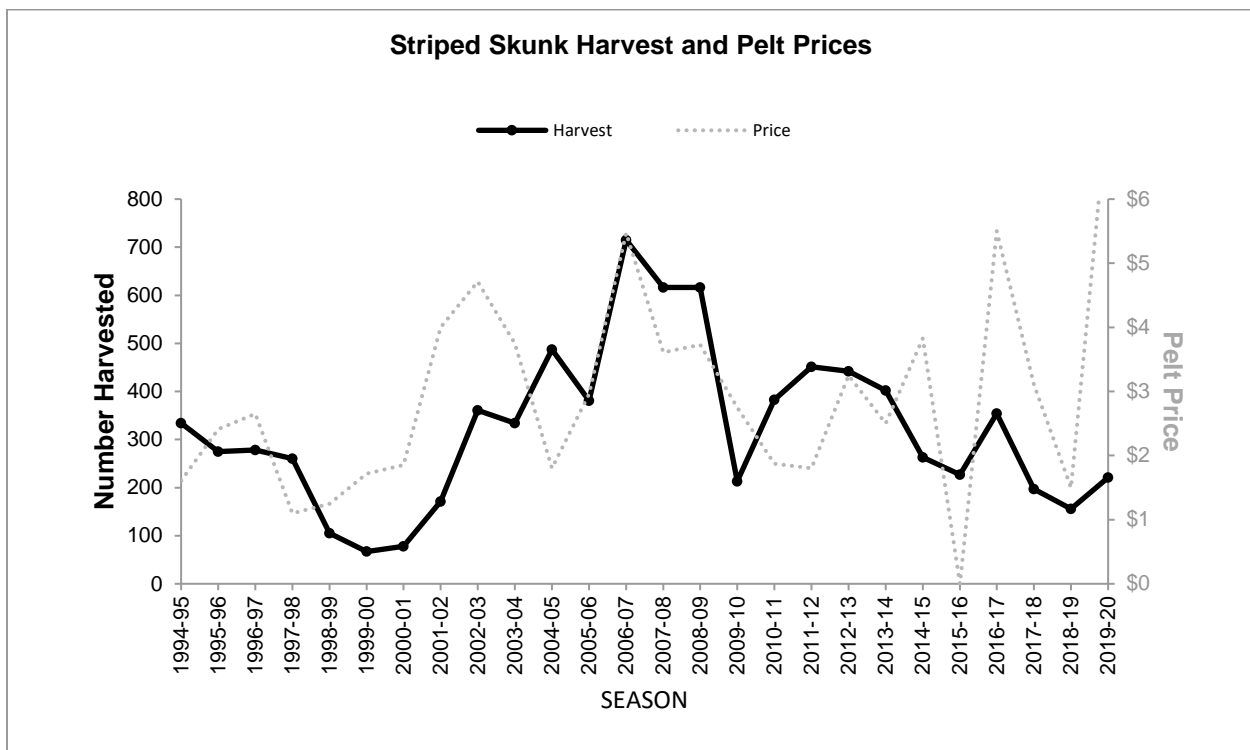


Figure 16. Comparison of Missouri striped skunk harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

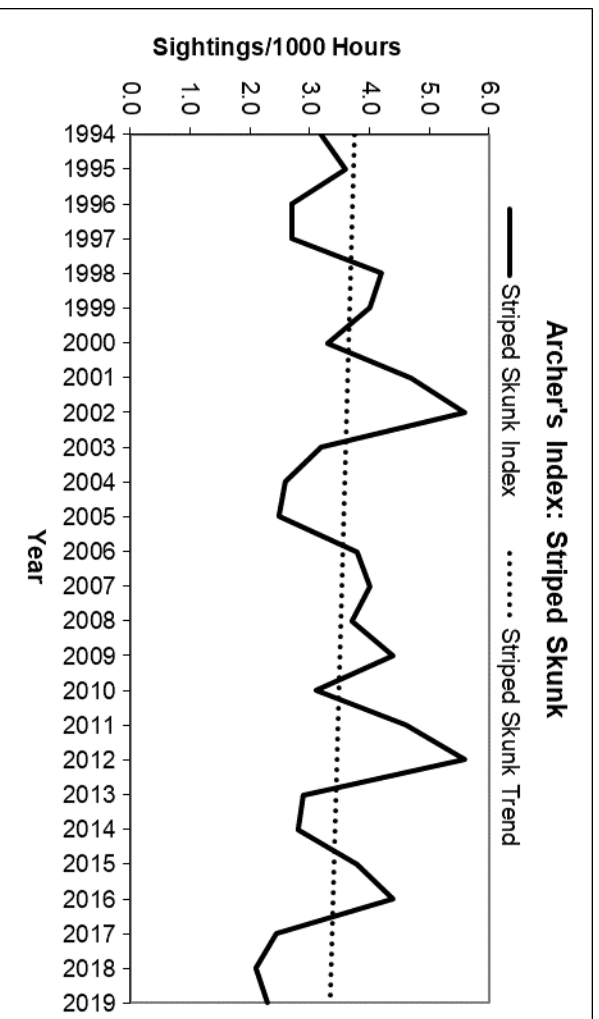


Figure 17. Striped skunk population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

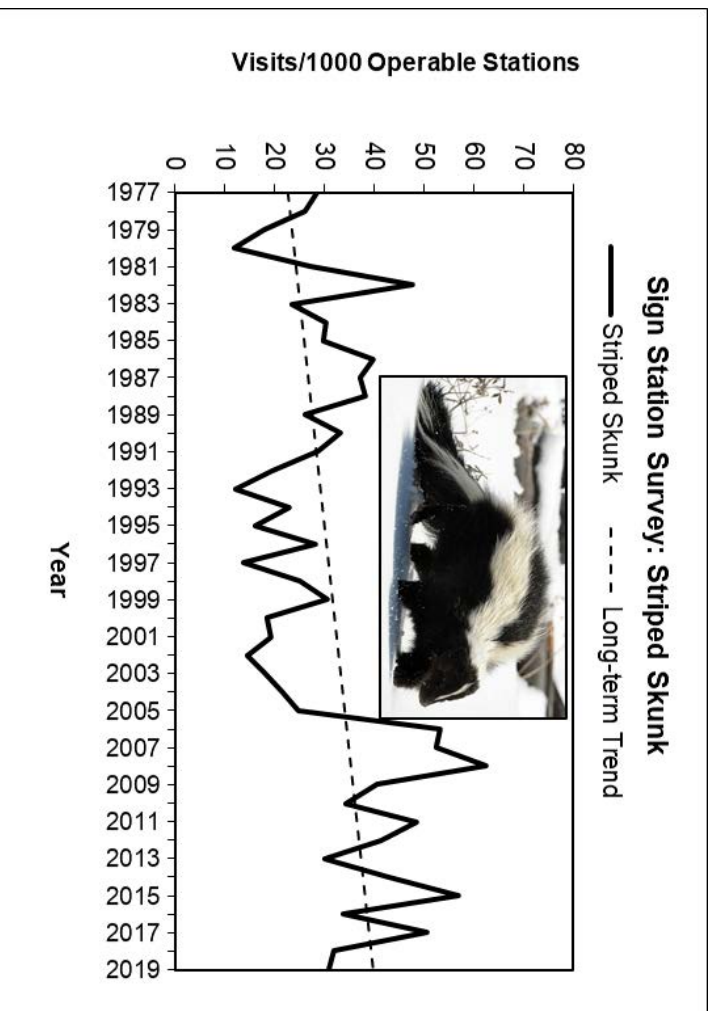


Figure 18. Missouri striped skunk population trends based on the Furbearer Sign Station Survey Index.

Bobcat Harvest and Population Trends

Bobcat harvest during the 2019-20 season was up 16.61% from 2018-19 and down 16.50% from 2017-18 harvest seasons (Figure 19) with **2,520 bobcats** harvested. Prices during the 2019-20 season decreased by 54.8% from the previous year. Trappers and hunters are required to check or register bobcat carcasses or green pelts at MDC offices or with Conservation Agents. The number of bobcat pelts purchased by fur dealers (756) was significantly less than those registered by trappers and hunters as required by CITES (2,520). Instead of selling to fur buyers, trappers may make more money selling carcasses to taxidermists or selling mounted bobcats, or may retain bobcat pelts for personal use. The decline in harvest and in the number of bobcat pelts purchased by fur dealers also is likely attributed to a poor global fur market.

Population trends are derived from the Bowhunter Observation Survey and Furbearer Sign Station Survey. Both Sign Station Survey and Archer's Index data suggest bobcat populations appears to be stable (Figures 20 and 21).

Geographic distribution of harvest varies by county and method. Trappers harvested 1,577 bobcats, while hunters harvested 885 bobcats. Nodaway County had the highest total harvest at 71 (Figure 22) and hunting harvest (Figure 23), while Douglas County had the highest trapper harvest (Figure 24).



Age analysis of teeth submitted to the department show a majority of individuals harvested were in the age classes three years of age or below (Figure 25). These and other data will enable MDC to utilize Statistical Population Reconstruction (SPR) to monitor the bobcat population. Age data for the 2019-2020 season is not available at this time.

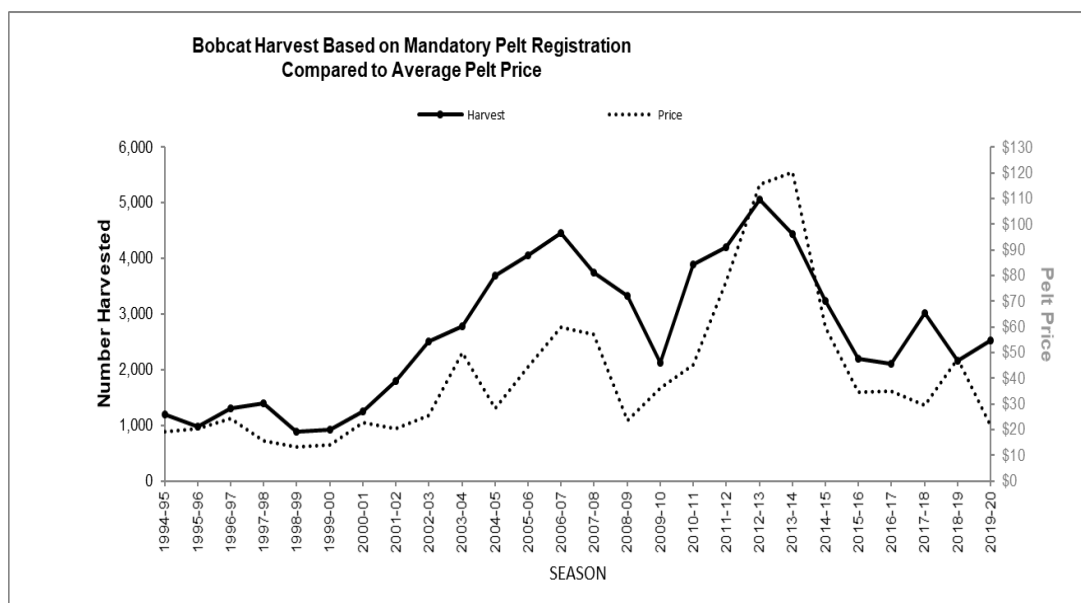


Figure 19. Missouri bobcat harvest trends since 1994 compared to average pelt prices.

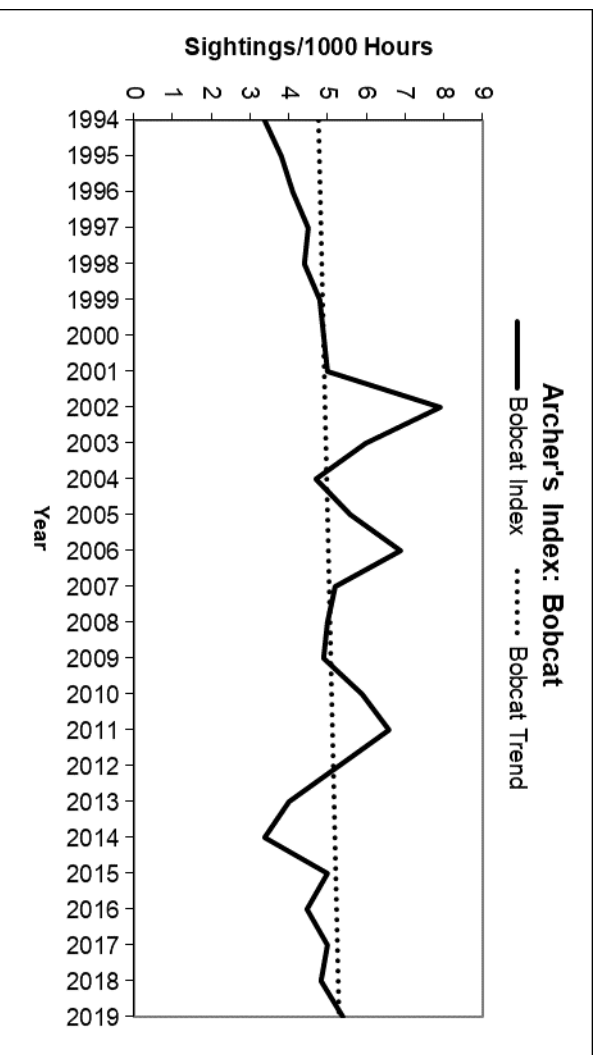


Figure 20. Missouri bobcat population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

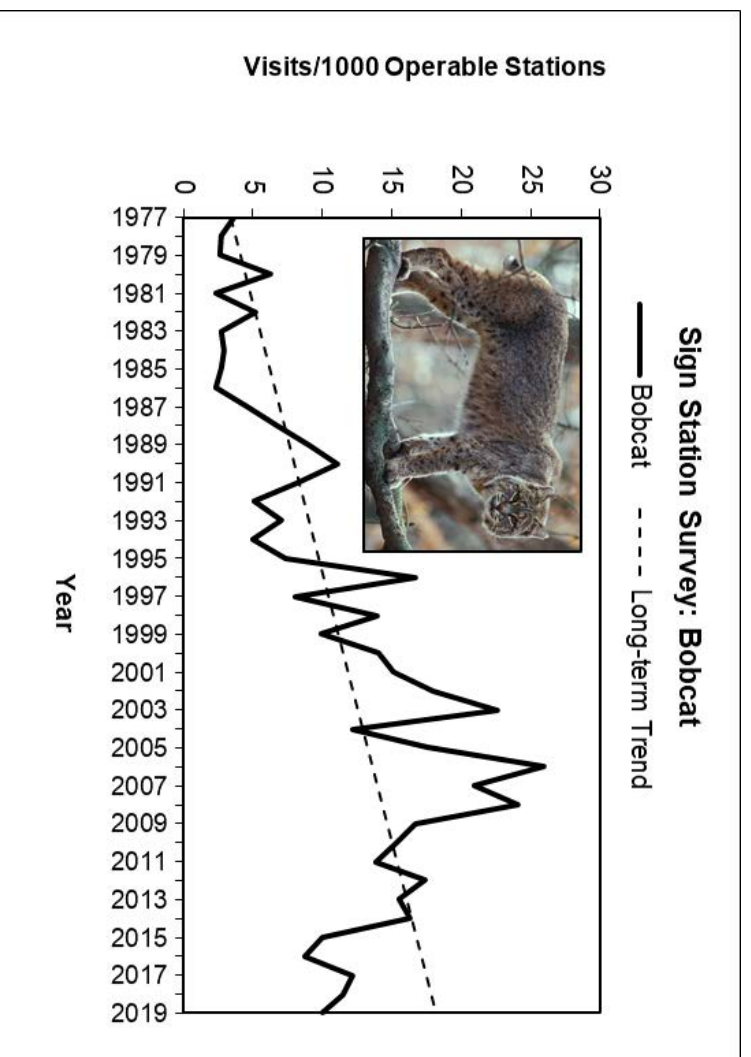
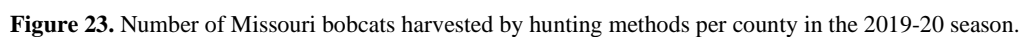


Figure 21. Missouri bobcat population trends based on the Furbearer Sign Station Survey Index.



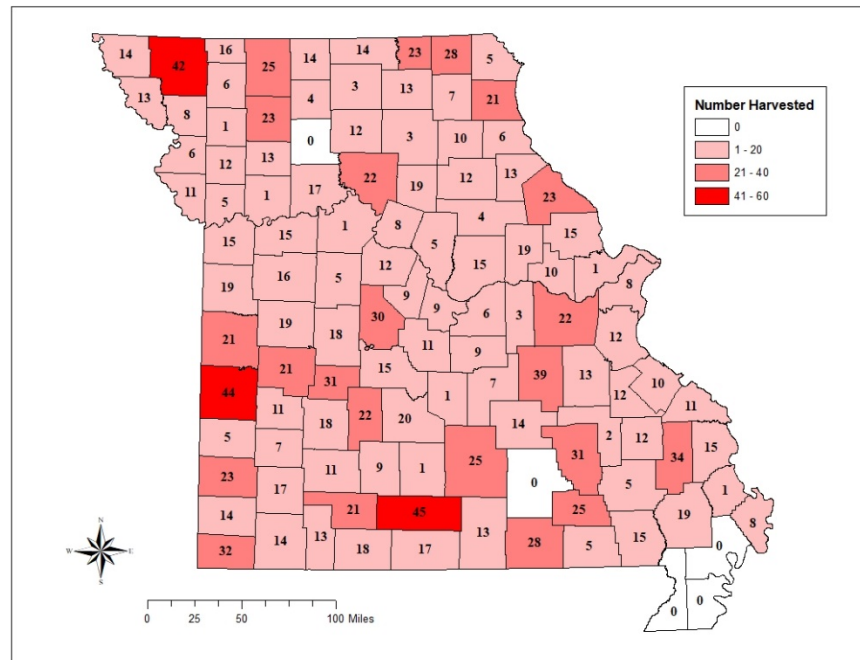


Figure 24. Number of Missouri bobcats harvested by trapping methods per county in the 2019-20 season.

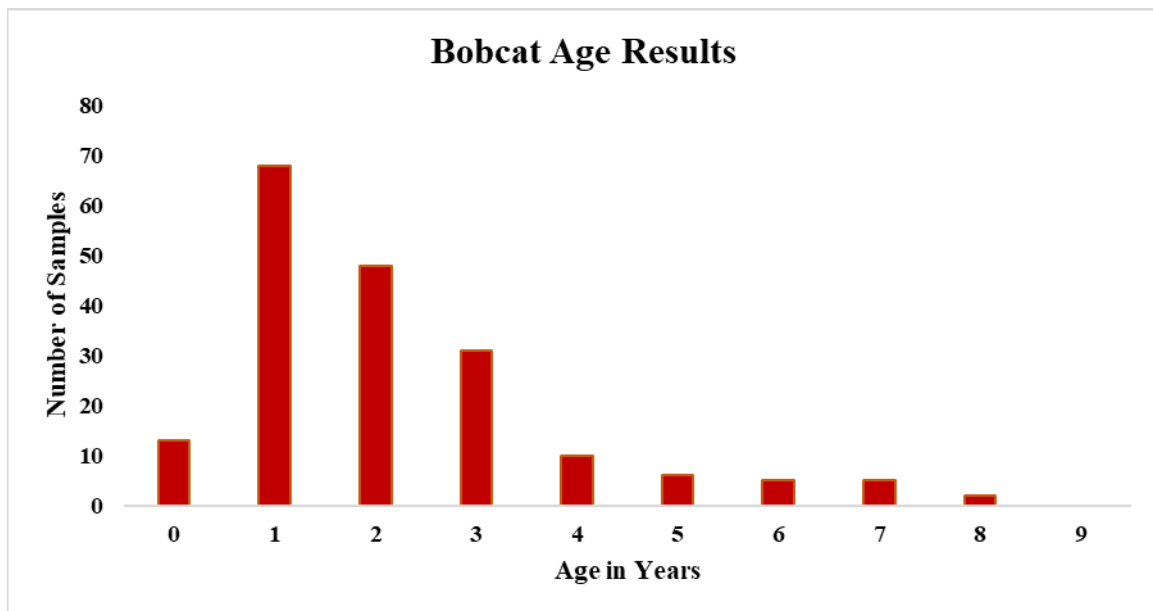


Figure 25. Ages of bobcats harvested during the 2018-19 bobcat harvest season. Age information is determined from teeth voluntarily submitted by hunters and trappers.

River Otter Harvest

River otter harvest for the 2019-20 furbearer season was **1,558 river otters**, up 10.34% from last year and down 23.06% from the 2017-18 season. River otter pelt prices decreased 31.3% from last year and were 76.0% lower than the peak prices in 2012-13 season. The relatively low harvest of the last five seasons can be attributed to the steady decline in pelt prices (Figure 26).



Trappers are required to check or register river otter carcasses or green hides at MDC offices or with Conservation Agents in accordance with requirements by CITES for exportation outside of the United States. Trappers took an average of 3.4 river otters per harvest season.

River otter harvest was highest in Chariton County with 69 individuals harvested (Figure 27). Harvest in Chariton County also was among the highest harvest counties in the last three seasons. River otter harvest during the 2019-20 season was highest in the West Osage River and Missouri River watersheds (Figure 28). Over 20% of the total harvest was taken from these two watersheds (Table 3).

Age analysis of teeth submitted to the department indicates that individuals in the one-year age class represent the highest proportion of the harvest compared to other age classes (Figure 29.) These and other data will enable MDC to utilize Statistical Population Reconstruction (SPR) to monitor the bobcat population. Age data for the 2019-2020 season is not available at this time.

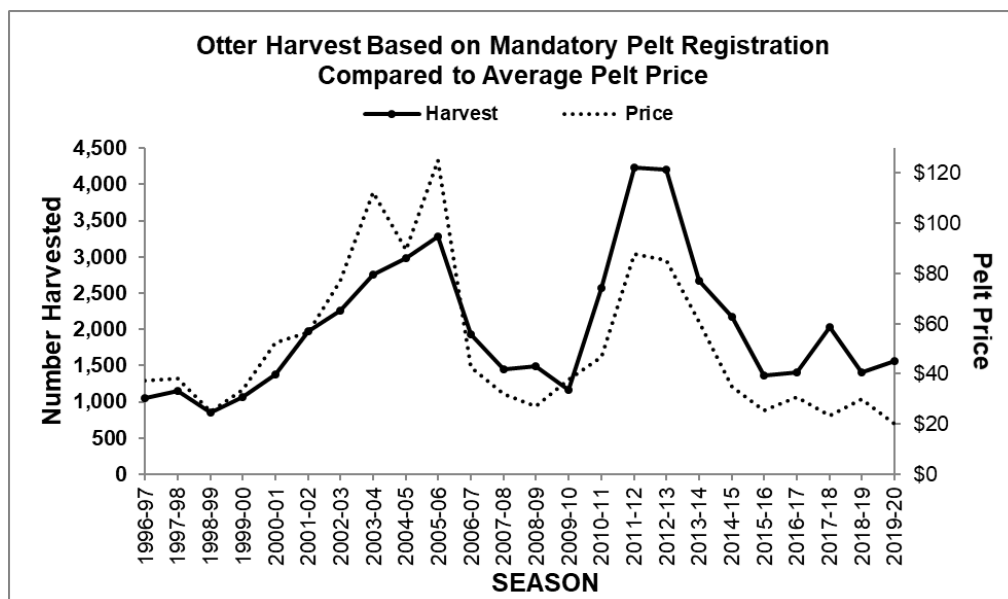


Figure 26. Missouri river otter harvest and average pelt prices from 1996 to 2020.

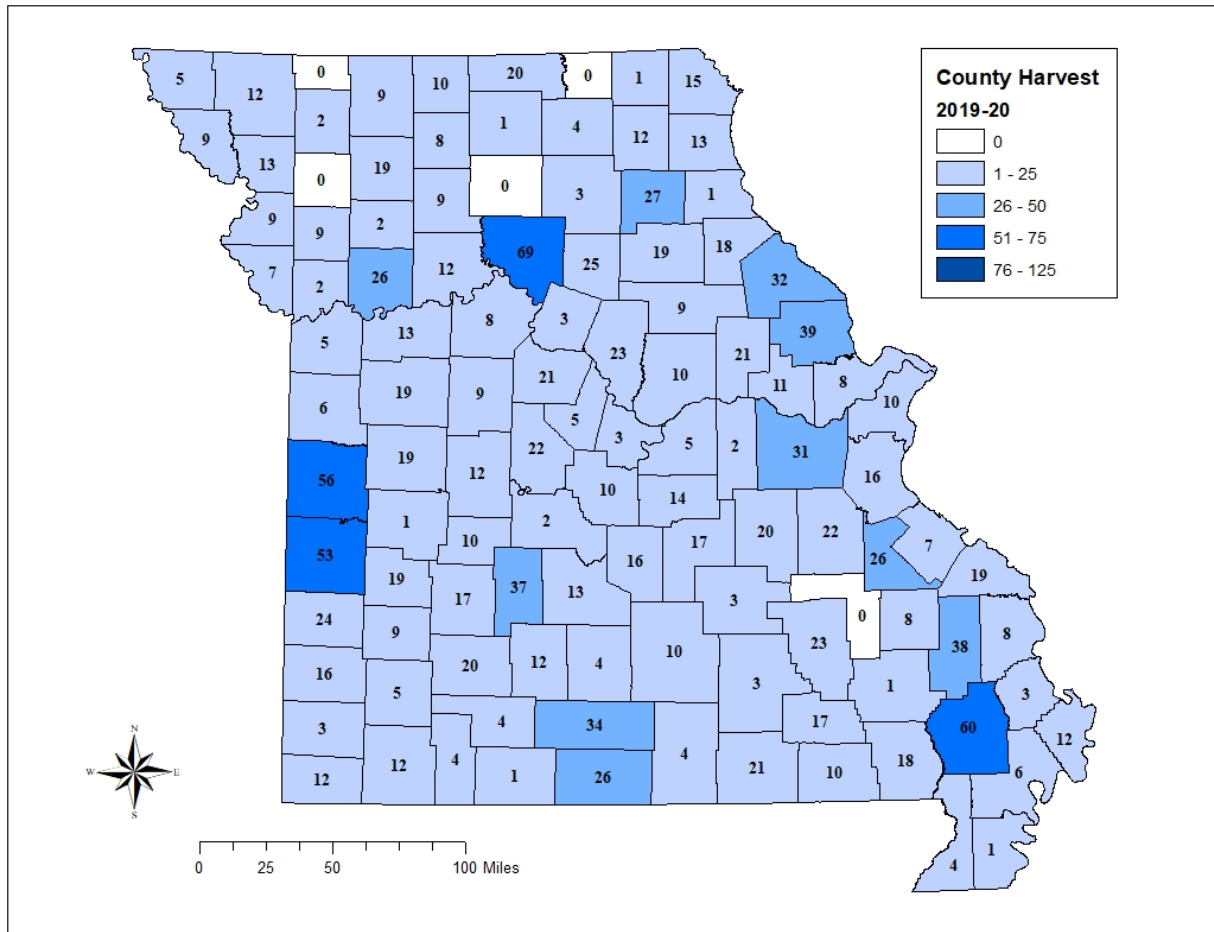


Figure 27. Total number of Missouri river otters harvested in each county during the 2019-20 season.



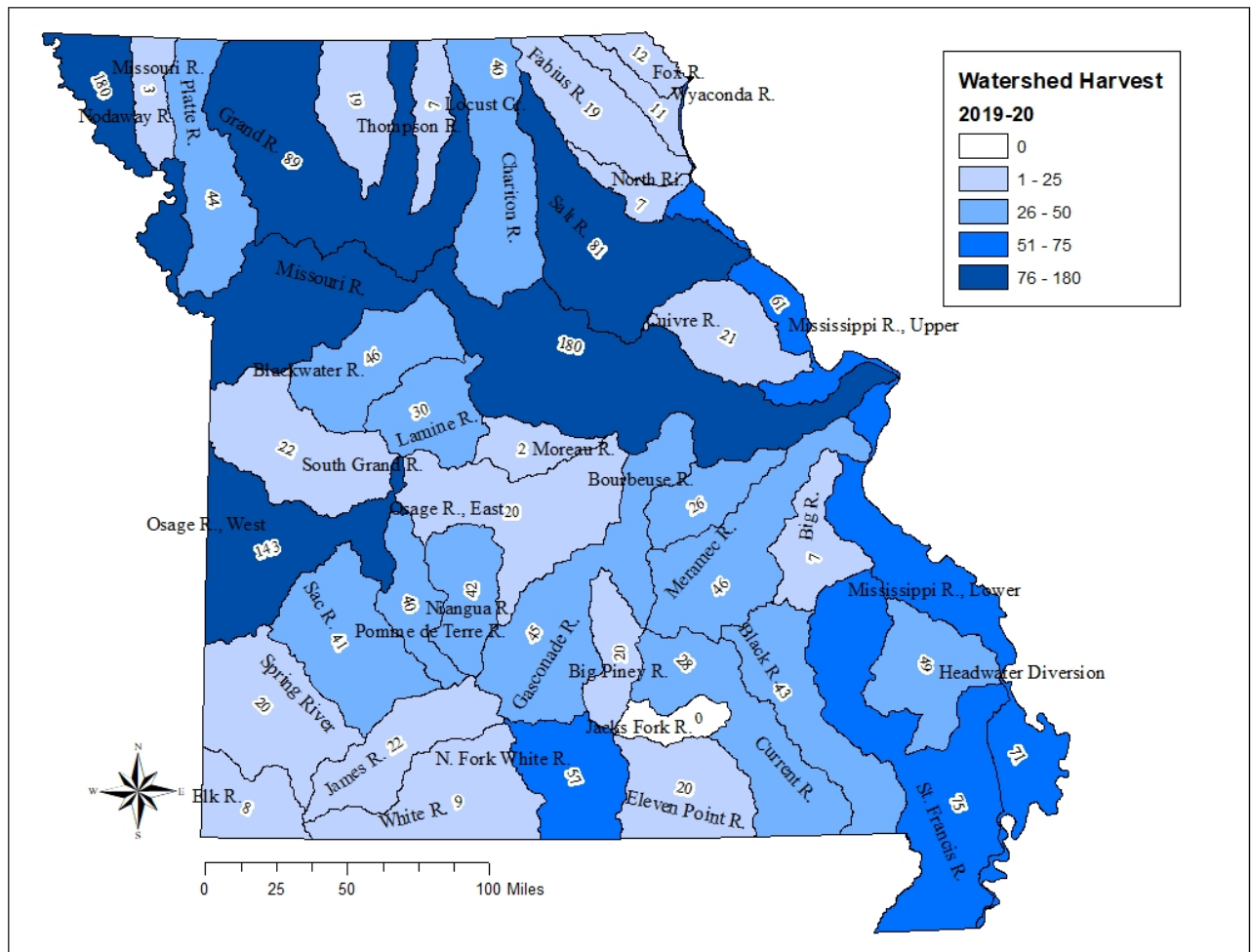
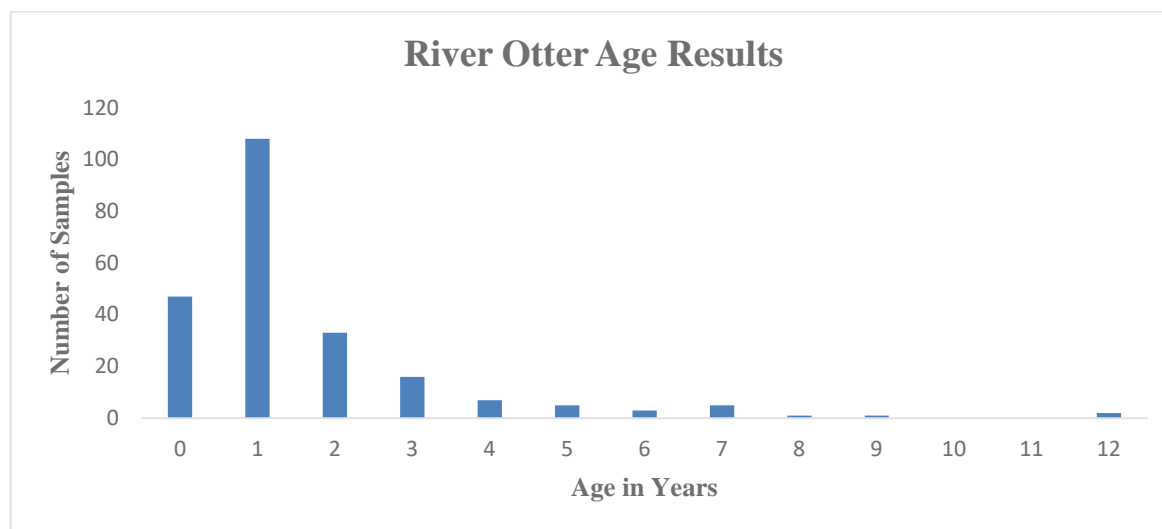


Figure 28. Missouri river otter harvest distribution among watersheds during the 2019-20 trapping season.

Table 3. Missouri river otter harvest distribution among watersheds during the 2019-20 trapping season.

Watershed	Number Harvested	Percent of Harvest	Watershed	Number Harvested	Percent of Harvest
Big Piney River	20	1.28%	Mississippi River (upper)	61	3.92%
Big River	7	0.45%	Missouri River	180	11.55%
Black River	43	2.76%	Moreau River	2	0.13%
Blackwater River	46	2.95%	N. Fork White River	57	3.66%
Bourbeuse River	26	1.67%	Niangua River	42	2.70%
Chariton River	40	2.57%	Nodaway River	3	0.19%
Cuivre River	21	1.35%	North River	7	0.45%
Current River	28	1.80%	Osage River East	20	1.28%
Eleven Point River	20	1.28%	Osage River West	143	9.18%
Elk River	8	0.51%	Platte River	44	2.82%
Fabius River	19	1.22%	Pomme de Terre River	40	2.57%
Fox River	12	0.77%	S. Grand River	22	1.41%
Gasconade River	45	2.89%	Sac River	41	2.63%
Grand River	89	5.71%	Salt River	81	5.20%
Headwater Diversion	49	3.15%	Spring River	20	1.28%
Jacks Fork River	0	0.00%	St. Francis River	75	4.81%
James River	22	1.41%	Thompson River	19	1.22%
Lamine River	30	1.93%	White River	9	0.58%
Locust Creek	7	0.45%	Wyaconda River	11	0.71%
Meramec River	46	2.95%	Unknown	32	2.05%
Mississippi River (lower)	71	4.56%	Total Harvest	1,558	100.00%

**Figure 29.** Ages of otter harvested during the Missouri 2018-19 river otter harvest season. Age information is determined from teeth voluntarily submitted by trappers.

Mink, Muskrat, and Beaver Harvest and Population Trends

Mink, muskrat, and beaver harvests continue to fluctuate in somewhat predictable ranges. Since 1990, mink harvests have varied from about 150 – 1,500 (Figure 30), muskrat harvests from 5,000 – 20,000 (Figure 31), and beaver harvests from 2,000 – 10,000 (Figure 32). Historically, mink and muskrat numbers have fluctuated widely; however, habitat degradation has limited populations and subsequently reduced harvest. Beavers are a longer-lived species and less vulnerable to depredation; harvest rates are more likely related to pelt values. Trappers harvested 135 mink (Figure 30), 3,635 muskrats (Figure 31), and 2,124 beavers (Figure 32) during the 2019-20 season. Mink prices decreased 73.5%. Muskrat prices also decreased this year by 43.9% from \$4.69 to \$2.63. Although beaver is still an important item for hatters (NAFA, 2020; FHA, 2020), pelt prices decreased by 27.2% from \$9.59 to \$6.98.



Population trends for these species are derived from the Bowhunter Observation Survey. Population trend data are low (Figure 33), in part, because these animals are associated with water bodies and may not be a common sighting for archers and are rarely present in Sign Station Surveys. Given that, trends of mink, muskrat, and beaver suggest populations are stable with slight declines for beaver.

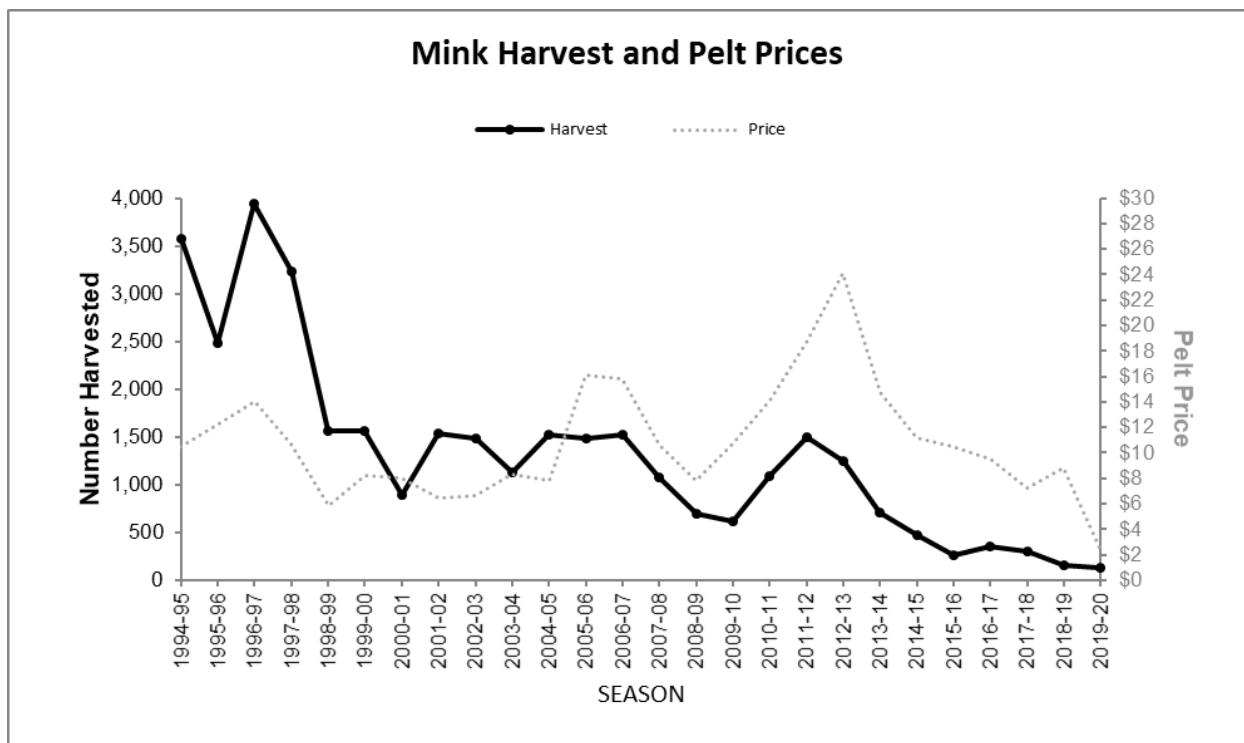


Figure 30. Missouri mink harvest trends since 1994 compared to average pelt prices. Harvest estimates are derived from fur buyer records. Annual pelt prices are the average price from the Missouri Trappers Association Fur Auction.

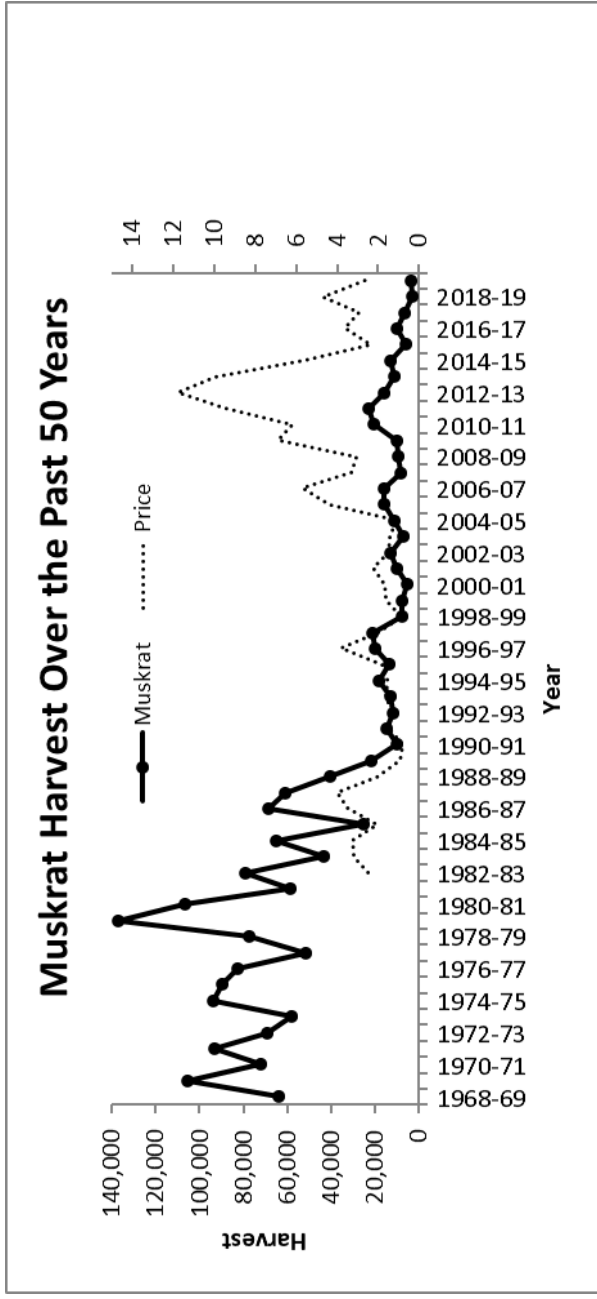


Figure 31. Comparison of Missouri muskrat harvest and pelt prices over the last 50 years. Harvest estimates are derived from fur buyer records. Annual pelt prices are the average price from the Missouri Trappers Association Fur Auction.

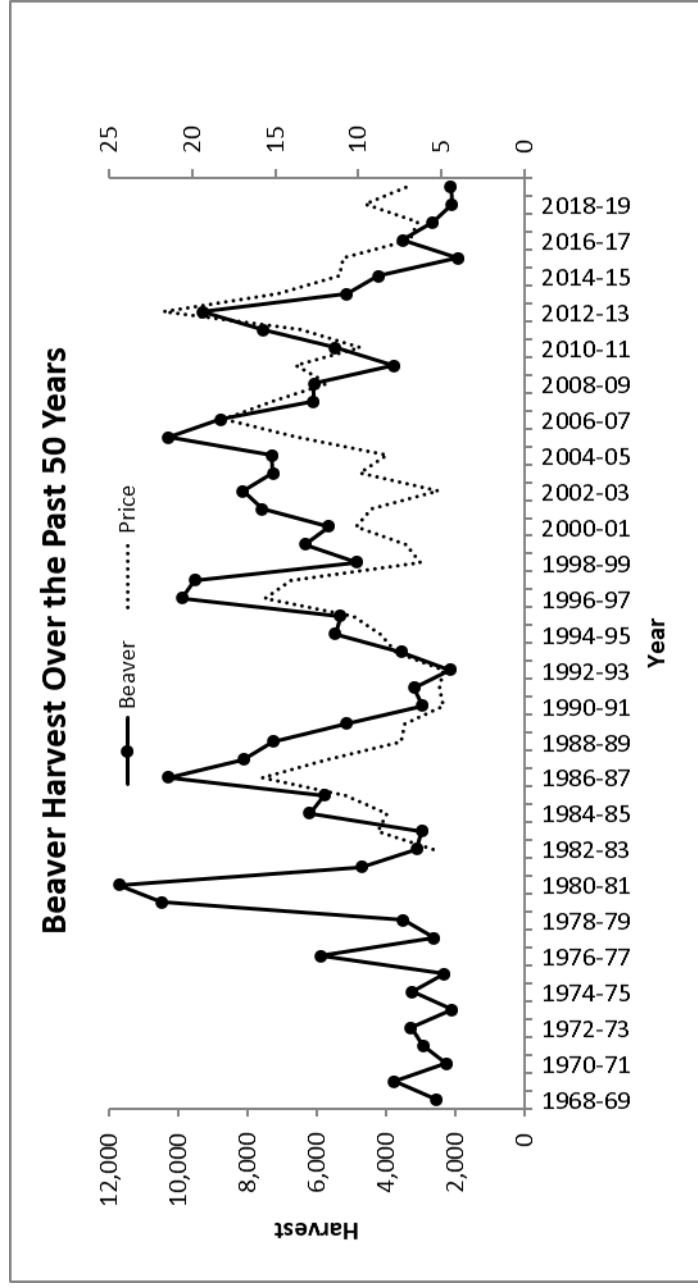


Figure 32. Comparison of Missouri beaver harvest and pelt prices over the last 50 years. Harvest estimates are derived from fur buyer records. Annual pelt prices are the average price from the Missouri Trappers Association Fur Auction.

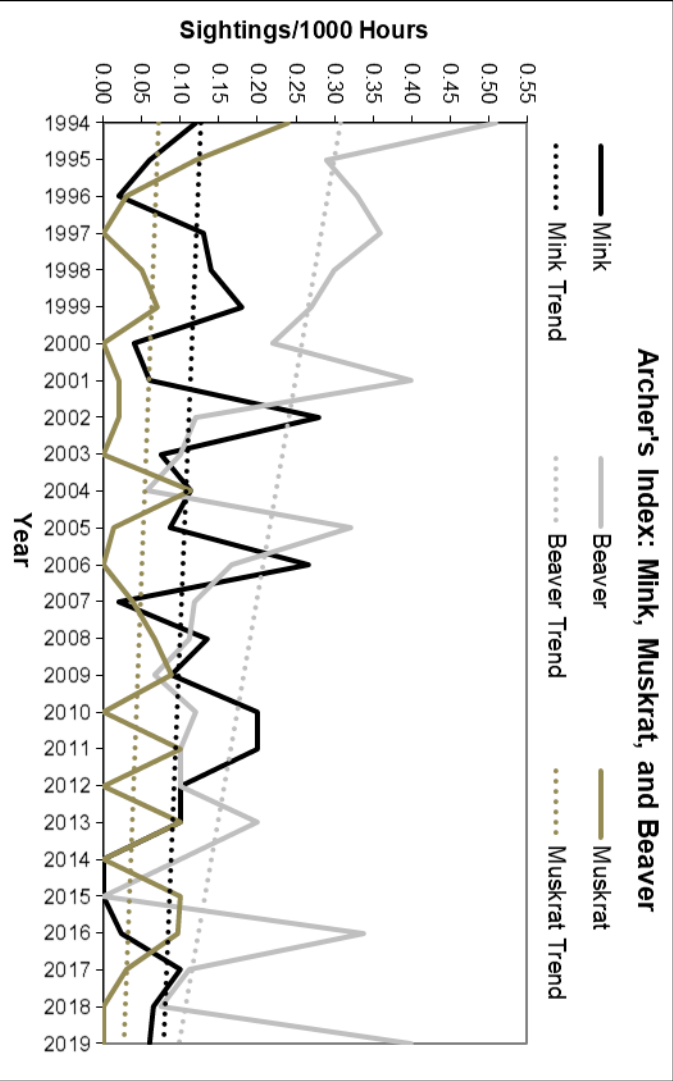


Figure 33. Mink, muskrat, and beaver population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.



American Badger Status in Missouri

The **American badger** is a native, but uncommon, furbearing species in Missouri and is state-ranked as a **Vulnerable Species of Conservation Concern** by MDC. American badgers are a fossorial (burrowing animal) species and require habitat where suitable soil is available for digging burrows for both themselves and for hunting prey. American badgers can be found throughout the state in any of the **8 zoological regions** (Figure 34), but soil most suitable for burrowing mammals occurs primarily in four regions: Western Prairie, Northwest Prairie, Northern Riverbreaks, and Northeast Riverbreaks. Consequently, the bulk of the recorded observations in the Missouri Natural Heritage database occur in these four regions.

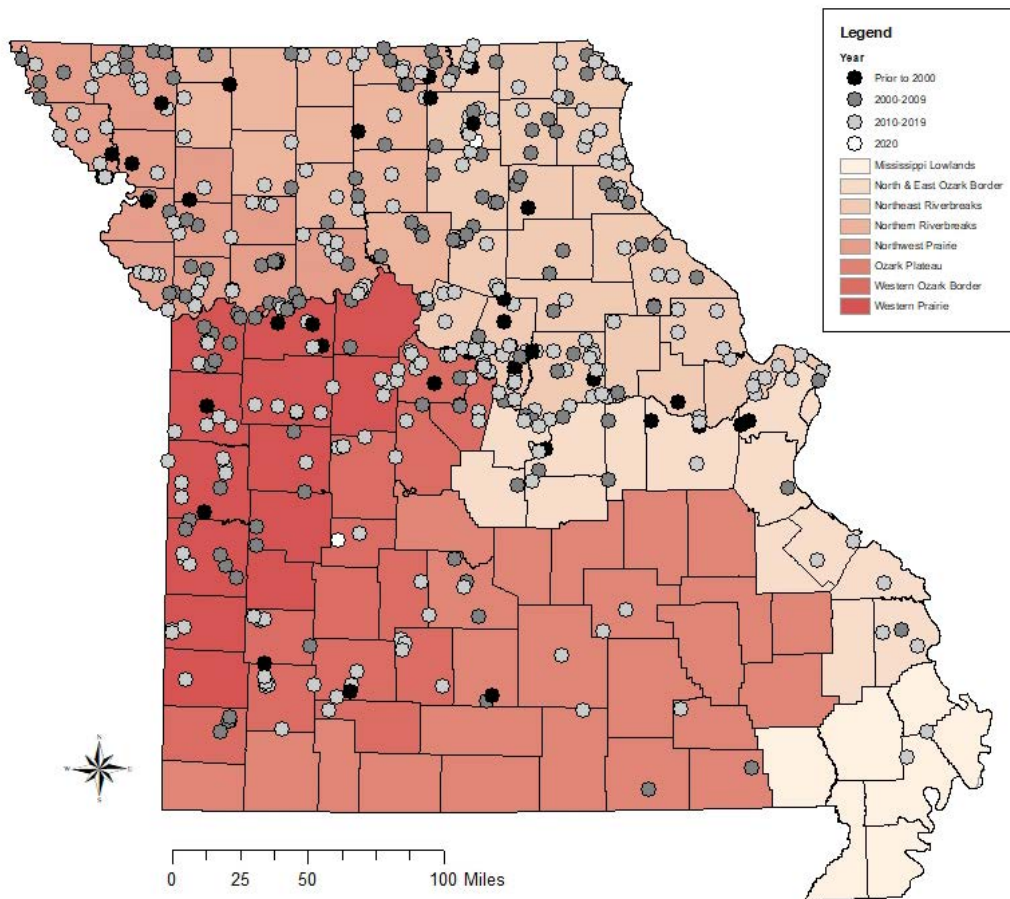


Figure 34. American badger sightings in the Missouri Natural Heritage database range from the 1940s to present and occur in all 8 zoological regions. This includes the 90 new sightings since 2017.

Considered a furbearing species in the state of Missouri, American badgers are harvested annually during the trapping season. However, harvest has historically been low compared to other furbearers because American badger pelts are not as desirable and typically sell for lower prices than other, more valuable pelts (Figure 35). Furthermore, most American badger harvest occurs as a result of nuisance animal removal. In recent decades, harvest has declined and likely is a result of several factors. First, grasslands and prairies, where the soil substrate is suitable for burrowing, are primary habitat types for American badgers. As these habitats are converted to intensive agriculture, available habitat for American badgers decreases, mostly due to the loss of prey species in these areas. Second, interest in trapping also has declined and fewer individuals participate in trapping.

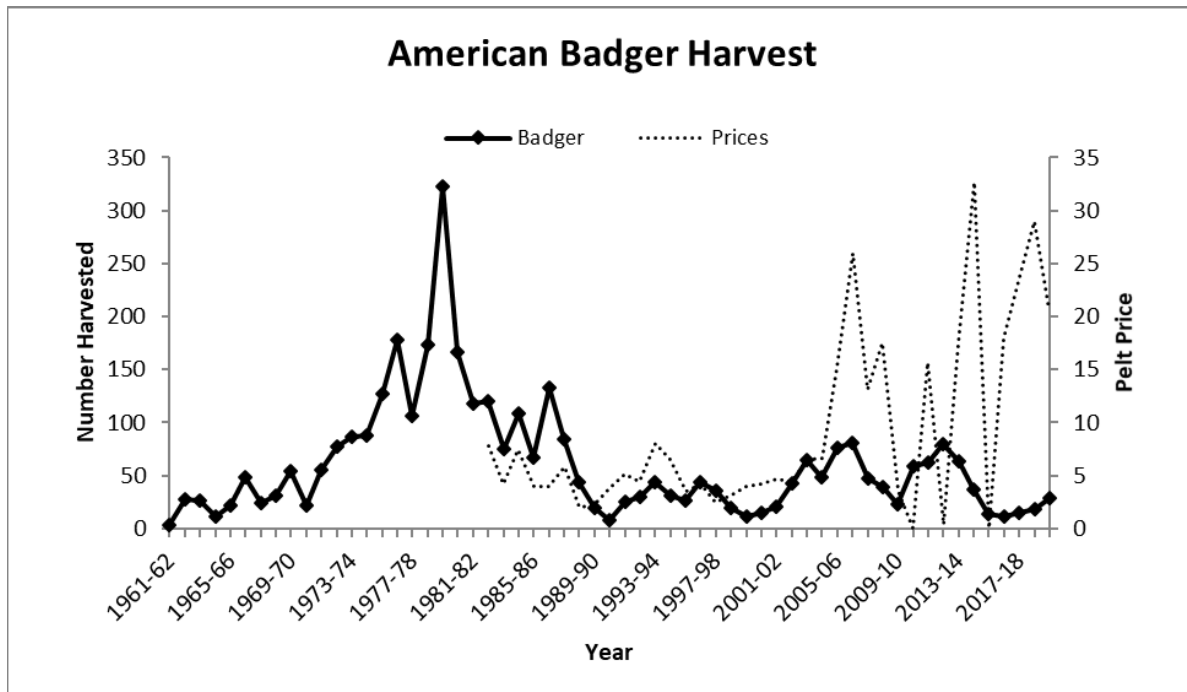


Figure 35. American badger harvest (1961 to present) and pelt prices (1983 to present) in Missouri.

To offset the reduced number of observations and low harvest, MDC made a concerted effort to collect and record American badger observations and specimens from citizens (e.g., trappers) and MDC personnel from 2009 through 2011 to better understand the demographics and distribution of American badgers in Missouri. As a result, more than 300 records occur within the Missouri Natural Heritage database allowing the Department to determine where the species is most prevalent in the state. In 2017, MDC once again made a call for American badger observations with the distribution of a flyer to the Missouri Trappers Association, MDC Regional Offices and Nature Centers, and Missouri DNR State Parks (Figure 36). This renewed effort produced 90 new reports of American badgers across the state, but primarily in the four suitable zoological regions mentioned previously (Figure 34). MDC will continue to collect information about American badgers from citizens and MDC personnel.



WANTED: Rare Furbearer Sightings

American Badger	Spotted Skunk	Least Weasel	Long-tailed Weasel
<p>Flattened body with short, stocky legs. Face is distinctive with black patches, whitish chin and throat, and a prominent white stripe down the head. Weigh 8 to 20 pounds.</p>	<p>Distinct white spot in the center of the forehead and in front of each ear. Broken stripes down the body give a "spotted appearance." Weigh 0.5 to 2 pounds.</p>	<p>Long, tubular shape with a tail that is 25% of the head-body length. May turn white in the winter, in summer have brown pelts with white feet and underside. Found in northern Missouri and weigh 1 to 3.5 ounces.</p>	<p>Tail is 50% or more of the head-body length. May turn white in the winter, but have brown pelts in the summer with cream-yellow undersides. Found statewide and weigh 3 to 16 ounces.</p>

If you have seen any of these species in Missouri, the Department of Conservation would like your help!

Badger can be legally harvested in Missouri during the established season. Please report any badger sightings, captures or road-kill animals. If you are willing to turn-in a badger carcass, please contact Laura Conlee at the number below.

There is **NO** trapping or hunting season for weasels or spotted skunks. Please report any sightings, photos, or road-kill animals to the Department. If you accidentally trap a weasel or spotted skunk and the animal is alive, it must be immediately released. Please report the incidental capture. If you accidentally trap a weasel or spotted skunk and the animal is dead, the entire carcass must be turned over to your local conservation agent.

<p>MDC needs the following information with report submissions:</p> <ul style="list-style-type: none"> ◆ Date and Time of observation ◆ Number of individuals observed and number of young in group ◆ Location (County, GPS, distance/direction to nearest town, roads, mile markers, etc.) ◆ Sex, if known ◆ Status (alive, trapped, road-killed, etc.) ◆ Name, address, phone number, and/or email 	<p>Report Sightings to:</p> <p style="text-align: center;"> <i>Laura Conlee, Furbearer Biologist Missouri Department of Conservation Central Regional Office 3500 East Gans Road Columbia, MO 65201 (573) 815-7900 laura.conlee@mdc.mo.gov </i> </p>
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Figure 36. Rare furbearer sightings request flier distributed by Missouri Department of Conservation in 2017.

Rare Furbearers of Missouri



Missouri residents are fortunate to reside in a state with abundant natural resources, including wildlife, and an exceptional diversity of furbearing species. As a result, opportunities for observing wildlife, hunting, and trapping also are abundant. Three traditional furbearing species, the eastern spotted skunk (subspecies plains spotted skunk), least weasel, and long-tailed weasel, recently (within the last 3 decades) exhibited declines in population trends and harvest. The Missouri Department of Conservation (MDC) decided to close trapping for those species due to this significant decline.

The subspecies of **eastern spotted skunk** native to Missouri is the plains spotted skunk. This species was once abundant, albeit not as abundant as their striped cousins, and harvest of 30,000 or more individuals each year was common in Missouri. Declines in annual harvest began in the late 1940s as total harvest dropped precipitously from a high point of more than 55,000 to less than 10,000 individuals over a period of 7 years. After another 5 years, annual harvest dipped to less than 1,000 individuals until harvest dropped to less than 10 each year and MDC closed the season for spotted skunks in 1991-92 (Figure 37). Currently, the plains spotted skunk is listed as **state Endangered** and state-ranked as a **critically imperiled Species of Conservation Concern** in Missouri. Records of spotted skunk sightings are maintained in the Missouri Natural Heritage database, which tracks locations of all Missouri species of conservation concern (Figure 38).

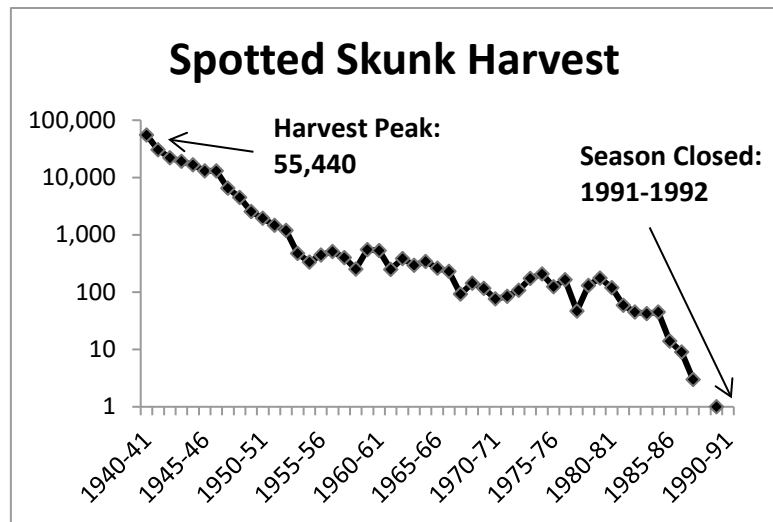


Figure 37. Historic spotted skunk harvest in Missouri from the harvest peak in 1940-41 to the close of the spotted skunk trapping season in 1991-92.

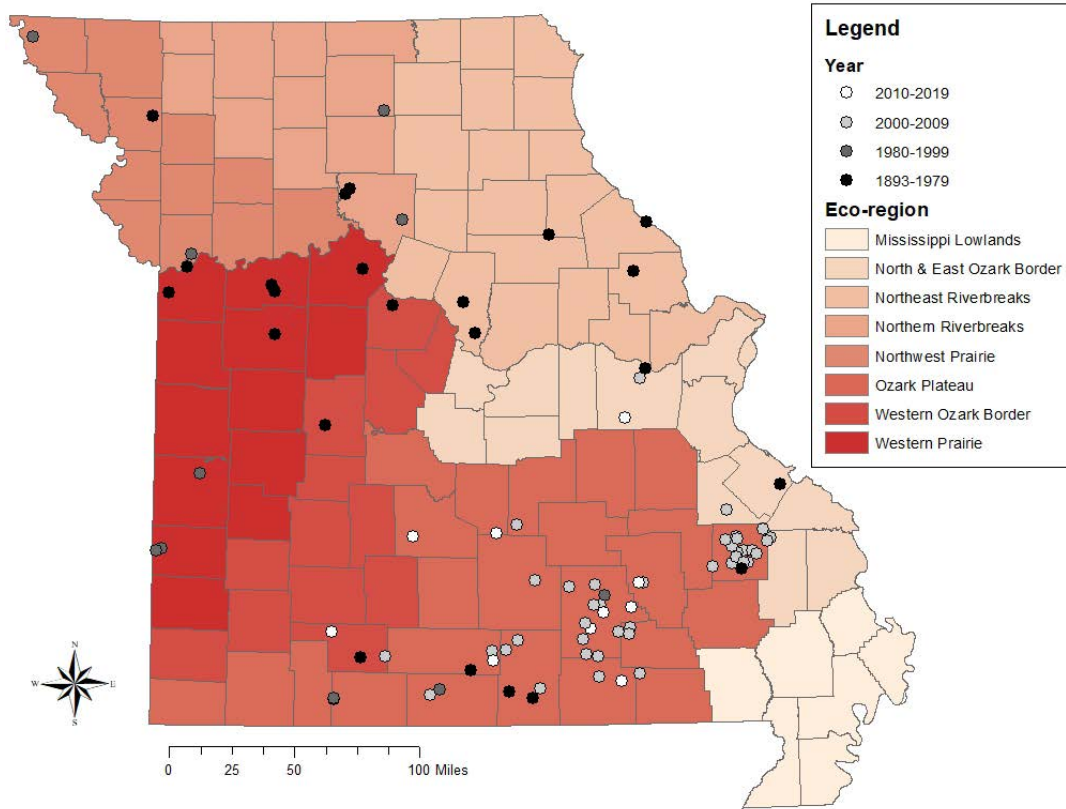


Figure 38. Plains spotted skunk sighting locations from the Missouri Natural Heritage database.

Northern Missouri is the southern extent of the **least weasel's** range; therefore, the species was never widespread in the state. Although traditionally considered a furbearer, Missouri's *Wildlife Code* does not define least weasels as a furbearing or game species. Conversely, **long-tailed weasels** can be found from central Canada into portions of South America and thus, can be found throughout the state of Missouri. Long-tailed weasels are the primary target of weasel trapping efforts in Missouri, but harvest records indicate an overall 'weasel' category suggesting take of both species occurred. Weasels were never a large proportion of the fur harvest in Missouri, but harvest peaked in the mid-1930s before steadily declining until the season was closed in 2000-01 (Figure 39).

Currently, both weasel species are classified as **Species of Conservation Concern** and state-ranked as **Vulnerable**. Like spotted skunks, sightings of both weasel species are maintained in the Missouri Natural Heritage database providing an indication of their distributions in Missouri (Figures 40 and 41).

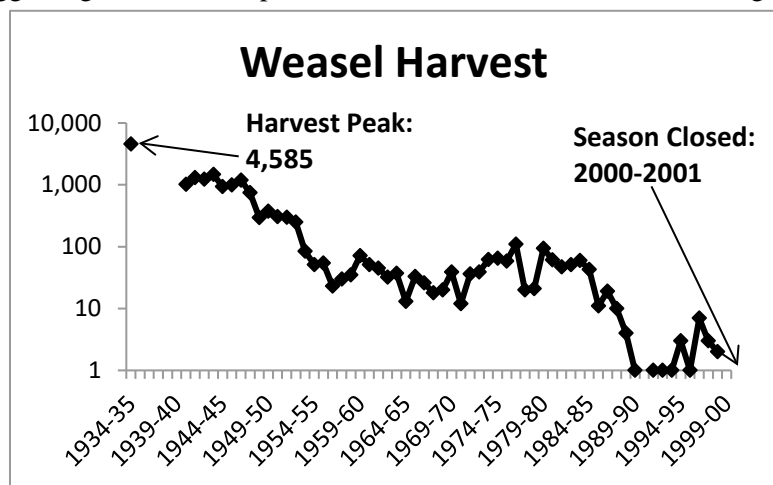


Figure 39. Historic weasel harvest in Missouri from the harvest peak in 1934-35 to the close of the weasel trapping season in 2000-01 with a gap in harvest data from 1935-36 through 1939-40.

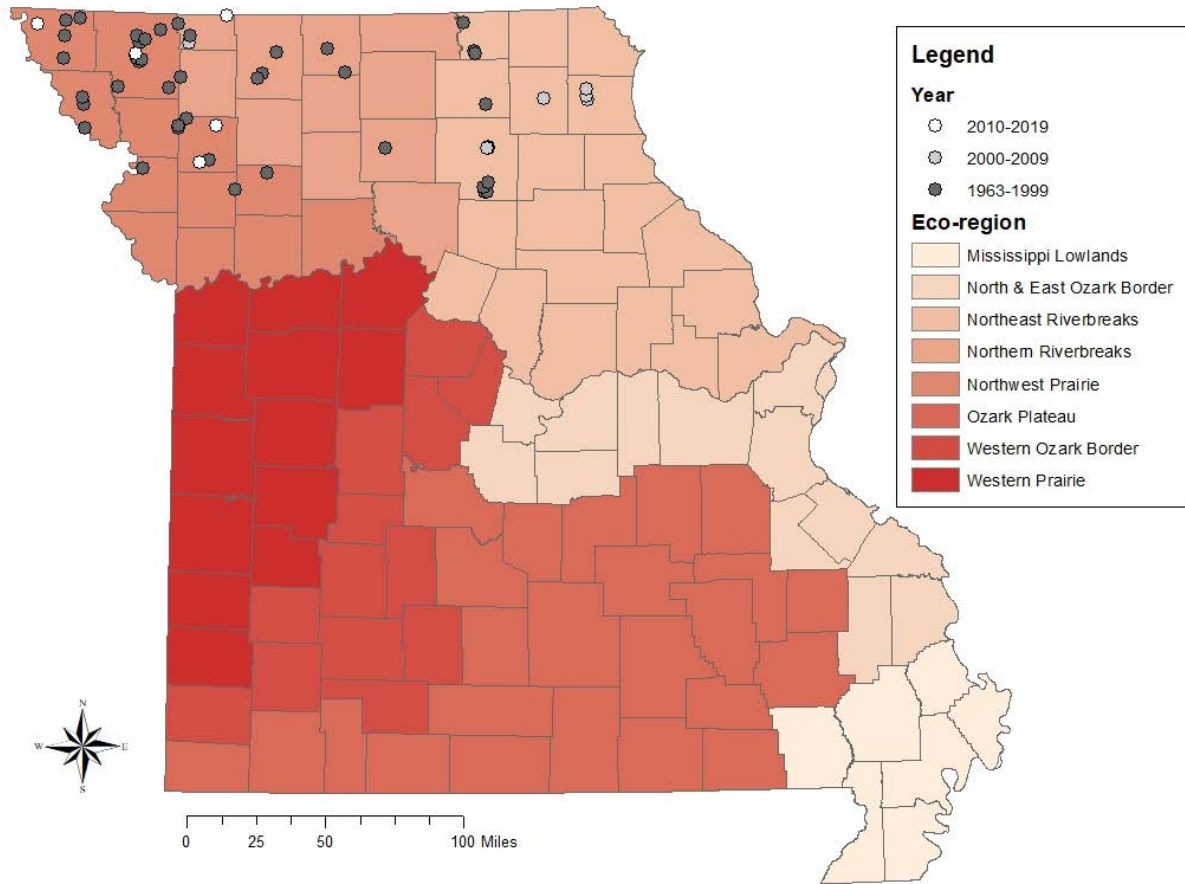


Figure 40. Least weasel sighting locations in the Missouri Natural Heritage database.



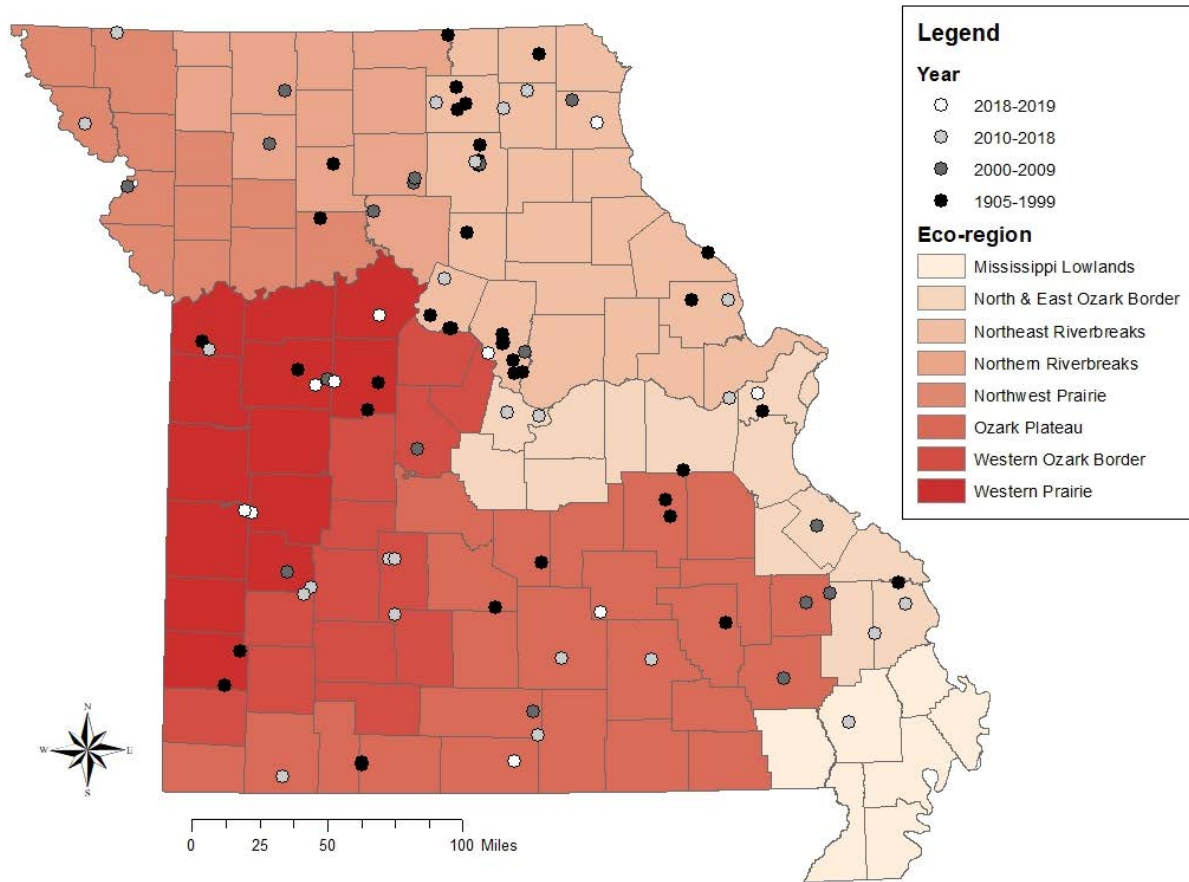


Figure 41. Long-tailed weasel sighting locations in the Missouri Natural Heritage database, including 22 sightings since 2017.



State Furbearer Records



Official furbearer weight records began in 2011. Candidate furbearers must be weighed at MDC's Central Regional Office in Columbia for or verified by MDC staff on a certified scale. **Four new** record-sized furbearers were harvested in the 2019-20 hunting and trapping seasons (Table 4), including bobcat, coyote, muskrat, and beaver. Additionally, the record weight for badgers is currently tied. Please note that some larger weights may have occurred prior to official record keeping in 2011 but cannot be considered record weights at present.

Table 4. Current record-holders and weights of record furbearing species.

Current Record Furbearers						
Species	Sex	Date Taken	County Taken	Weight (lbs.)	Ounces (oz.)	Hunter/Trapper
Badger	M	17 Dec 2014	Perry	28	14.4	Corey Robinson
Badger	M	21 Nov 2017	Randolph	28	14.4	Glen & Kyle Fessler
Beaver *	F	8 Mar 2020	Chariton	81	0	Clay Creech
Bobcat *	M	22 Feb 2020	Worth	38	7.5	Harold Owens
Coyote *	M	12 Jan 2020	Maires	51	8	Bradley Deeken
Gray Fox	M	2 Jan 2016	Marion	12	11	Lance Hudson & Bobby Gruenloh
Mink	M	19 Jan 2013	Ralls	5	3.2	Jeff Thompson
Muskrat *	M	21 Jan 2020	Cass	4	5.3	Dennis Hull
Nutria	M	2 Feb 2014	Pemiscot	15	12.8	Charlie Brown
Opossum	M	18 Dec 2016	Lincoln	16	2.6	Jacob Doll
Raccoon	M	4 Dec 2015	Gentry	28	8	Dennis Nelson
Red Fox	F	29 Dec 2018	Cape Girardeau	13	5.7	Jake Partridge
River Otter	M	4 Feb 2019	Ozark	32	11.2	Sam Day
Striped Skunk	M	4 Dec 2018	Moniteau	9	14	Ethan Starr

* New record from previous years

Appendix A

Missouri hunter hours and furbearer population indices based on archer's diaries, 1983 to 2018.

YEAR	Hunter Hours	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
1983	55,374	20.0	6.5	5.1	1.7	23.8	12.6	5.0	0.7	0.3	0.5	0.1	0.1	0.0	0.0
1984	32,746	18.8	6.8	3.1	1.2	16.9	6.4	3.5	0.3	0.3	0.1	0.0	0.1	0.0	0.0
1985	30,990	20.1	5.3	2.8	1.5	15.4	8.6	4.2	0.5	0.4	0.4	0.1	0.1	0.1	0.0
1986	51,727	23.5	5.7	2.8	1.5	15.3	6.9	3.5	0.3	0.4	0.0	0.0	0.0	0.0	0.0
1987	57,457	23.5	4.5	2.5	2.0	23.3	10.1	3.0	0.3	0.7	0.2	0.1	0.1	0.1	0.0
1988	84,497	22.4	4.7	2.4	1.7	16.7	4.8	2.7	0.3	0.6	0.1	0.0	0.1	0.1	0.0
1989	72,992	21.1	5.1	2.4	1.8	19.6	5.6	3.5	0.1	0.6	0.1	0.0	0.2	0.1	0.0
1990	72,227	23.6	4.9	2.3	2.9	24.0	7.2	3.5	0.2	0.4	0.1	0.0	0.1	0.1	0.0
1991	64,434	26.1	4.7	3.0	3.3	30.5	11.7	4.0	0.3	0.3	0.1	0.0	0.1	0.0	0.1
1992	64,452	22.5	4.7	2.3	2.9	24.3	8.9	2.8	0.6	0.7	0.1	0.0	0.1	0.3	0.0
1993	53,857	19.7	4.2	2.1	3.2	28.1	7.7	3.7	0.2	0.5	0.2	0.0	0.1	0.3	0.0
1994	49,102	21.0	5.1	2.0	3.4	32.0	7.6	3.2	0.1	0.5	0.2	0.0	0.2	0.2	0.0
1995	66,106	22.3	4.6	2.1	3.8	36.5	9.6	3.6	0.1	0.3	0.1	0.0	0.1	0.3	0.1
1996	60,077	19.6	4.5	1.8	4.1	29.7	6.6	2.7	0.0	0.3	0.0	0.0	0.1	0.5	0.0
1997	47,816	18.0	4.0	2.0	4.5	31.2	7.4	2.7	0.1	0.4	0.0	0.0	0.1	0.6	0.0
1998	43,152	20.8	4.1	2.4	4.4	33.0	10.6	4.2	0.1	0.3	0.1	0.0	0.2	0.3	0.1
1999	44,012	29.2	3.7	2.2	4.8	45.9	12.5	4.0	0.2	0.3	0.1	-	0.1	0.5	-
2000	50,795	20.0	3.7	2.0	4.9	32.1	8.1	3.3	0.0	0.2	0.0	0.0	0.1	0.3	0.0
2001	47,023	19.5	3.6	2.1	5.2	38.7	8.2	4.7	0.1	0.4	0.0	0.0	0.1	0.3	0.0
2002	42,826	24.6	3.8	1.5	7.9	42.6	14.4	5.6	0.3	0.1	0.0	0.0	0.1	0.8	0.1
2003	39,964	20.5	2.7	1.5	6.0	37.9	7.2	3.2	0.1	0.1	0.0	0.0	0.2	0.6	0.0
2004	35,071	17.6	2.8	1.1	4.7	37.3	7.9	2.6	0.1	0.1	0.1	0.0	0.1	1.2	0.0
2005	68,440	21.2	2.8	1.3	5.6	37.3	8.5	2.5	0.1	0.3	0.0	0.0	0.1	0.5	0.0
2006	60,040	22.2	3.2	1.3	6.9	54.4	14.4	3.8	0.3	0.2	0.0	0.0	0.1	0.5	0.0
2007	50,390	19.8	3.0	1.5	5.2	40.0	9.4	4.0	0.0	0.1	0.0	0.0	0.1	0.4	0.0
2008	44,471	16.3	2.6	1.2	5.0	41.5	7.8	3.7	0.1	0.1	0.1	0.0	0.4	0.3	0.0
2009	44,919	20.6	2.6	1.2	4.9	42.0	12.4	4.4	0.1	0.1	0.1	0.0	0.2	1.2	0.1
2010	42,907	27.1	2.1	1.0	5.9	60.6	12.9	3.1	0.2	0.1	0.0	0.0	0.2	0.7	0.0
2011	41,370	26.1	2.7	1.1	6.6	70.1	16.6	4.6	0.2	0.1	0.1	0.0	0.2	0.9	0.0
2012	63,621	24.4	3.6	1.4	5.3	45.8	7.1	5.6	0.1	0.1	0.0	0.0	0.3	1.1	0.0

YEAR	Hunter Hours	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
2013	68,674	16.2	2.1	1.4	4.0	33.3	5.7	2.9	0.1	0.2	0.1	0.0	0.1	0.6	0.1
2014	60,560	20.3	2.5	1.3	3.4	37.5	5.8	2.8	0.0	0.1	0.0	0.0	0.3	0.3	0.1
2015	58,203	26.2	2.5	2.0	5.0	55.2	13.4	3.8	0.0	0.0	0.1	0.0	0.3	0.6	0.1
2016	41,409	23.3	2.9	1.5	4.5	36.6	10.2	4.4	0.0	0.3	0.1	-	0.2	0.2	0.2
2017	98,898	24.3	3.4	2.9	5.0	48.5	11.8	2.5	0.1	0.1	0.0	-	0.2	0.6	0.1
2018	91,936	25.4	3.6	1.8	4.8	35.0	8.4	2.1	0.1	0.1	-	0.0	0.2	0.8	0.2
2019	87,821	25.2	3.3	3.9	5.4	47.6	13.3	2.3	0.1	0.4	0.0	-	0.1	0.6	0.1

Appendix B.

Missouri furbearer species population indices (sightings/1,000 hours) by county derived from the MDC Bowhunter Observation Survey in 2018.

County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Adair	24	2	.	5	32	3	.	.	.	.	.	.	.	.
Andrew	25	.	.	14	60	8	.	.	.	.	.	.	.	.
Atchison	51	.	.	.	17	6	6	.	11	.	.	.	.	.
Audrain	29	3	.	.	59	7	3	.	.	.	.	.	1	.
Barry	30	1	24	12	33	5	.	.	.	.	.	1	.	.
Barton	16	6	.	3	66	16	3	.	.	.	.	.	3	.
Bates	17	.	.	7	22	10	1	.
Benton	17	2	1	5	18	3	4
Bollinger	18	.	.	5	21	4
Boone	25	3	3	2	43	9	1	.	1
Buchanan	74	.	.	6	65	6

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Butler	8	2	.	8	19	8	.	.	.	.	.	.	.	5
Caldwell	88	.	.	.	20	7	.	.	.	.	.	.	10	.
Callaway	13	7	3	1	20	7	2	.	.	.	.	.	3	.
Camden	12	10	.	.	4	3	.	.	.	.	.	.	.	.
Cape Girardeau	19	.	2	3	28	6	7	.	.	.	.	.	2	.
Carroll	67	.	.	.	102	10	3	.	.	.	.	.	.	.
Carter	2	4	2	2	2	.	.	.	.	.	.	.	.	2
Cass	34	2	.	9	48	12	9	.	.	.	.	.	.	.
Cedar	25	.	.	7	27	18	5	.	.	.	.	.	.	.
Chariton	56	.	.	17	79	8	.	.	.	.	.	.	.	.
Christian	23	2	.	6	2	8	6	.	.	.	.	.	.	2
Clark	16	1	.	8	47	3	.	.	.	.	.	.	.	.
Clay	53	11	.	.	51	8	5	.	.	.	.	.	.	.
Clinton	85	5	.	23	34	18	.	.	.	.	.	.	.	.
Cole	15	.	.	.	3	6	3	.	.	.	.	.	.	.
Cooper	37	1	1	13	54	12	3	.	.	.	.	.	3	.
Crawford	8	1	2	4	10	2	1
Dade	42	.	.	13	18	3	3
Dallas	10	3	.	.	12	7
Daviess	24	4	.	6	113	47	2	6	.
Dekalb	80	.	.	10	99	3

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Dent	30	3	1	1	21	1	4	.	.	.	.	.	.	.
Douglas	4	.	.	2	.	.	.	.	.	.	.	.	.	2
Dunklin	7	20	.	.	47	7	7	.	.	.	.	13	.	.
Franklin	13	10	.	5	20	8	3	.	.	.	.	.	.	.
Gasconade	10	1	.	5	18	1	3	.	.	.	.	.	1	.
Gentry	49	.	.	5	91	15	5	.	.	.	.	.	.	.
Greene	8	5	3	3	10	2	5	.	.	.	.	.	.	.
Grundy	50	.	.	9	36	5	.	.	.	.	.	.	.	.
Harrison	32	.	.	8	64	.	.	.	.	.	.	.	.	.
Henry	30	9	14	7	61	16	1	.	.	.	.	.	.	.
Hickory	27	.	.	4	21	17	4	.	.	.	.	.	.	.
Holt	22	.	.	17	116	111	17	.	.	.	.	.	.	.
Howard	28	.	1	3	77	10	3	.	.	.	.	1	4	.
Howell	19	.	2	2	6	.	.	.	.	.	.	.	3	.
Iron	19	.	5	14	29	5	.	.	.	.	.	.	.	.
Jackson	21	1	.	6	20	7	.	.	.	.	.	.	.	.
Jasper	43	6	.	4	23	9	6	.	.	.	.	.	.	.
Jefferson	9	3	2	2	10	4	2	.	1
Johnson	44	3	3	7	65	17	1	1	1	.
Knox	48	3	.	1	81	13	1	2	.	.	.	1	3	.
Laclede	36	4	1	8	37	6	5	4

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Lafayette	55	.	.	2	50	68	11	5	.	.	.	5	.	.
Lawrence	25	.	.	6	37	5	11	.	.	.	.	.	9	.
Lewis	23	2	2	3	27	11	2	.	.	.	.	.	.	.
Lincoln	18	1	2	1	26	6	2	.	.	.	.	.	.	.
Linn	45	52	57	10	33	2	.	.	.	.	.	.	.	.
Livingston	26	19	.	3	32	36	3	.	.	.	.	.	.	.
McDonald	14	.	.	7	10	.	.	.	.	.	.	.	.	3
Macon	30	2	.	1	54	6	1	.	.	.	.	1	4	.
Madison	4	.	2	.	2	2	.	.	.	.	.	.	.	.
Maries	6	.	.	5	6	5	2	.	.	.	.	.	.	.
Marion	34	114	28	7	21	5	2	.	.	.	.	4	.	.
Mercer	19	.	.	.	76	21	2	.	.	.	.	.	.	.
Miller	16	.	.	3	16	6	6	.	.	.	.	3	.	.
Mississippi	294	.	.	.	.	.	.	.	.	.	.	.	.	.
Moniteau	34	.	.	11	45	45	.	.	.	.	.	.	.	.
Monroe	34	5	.	7	48	5	1	.	.	.	.	.	.	.
Montgomery	32	2	.	6	56	12	4	.	.	.	.	.	.	.
Morgan	11	4	.	4	20	5	2
New Madrid	63	.	.	21	188
Newton	53	.	.	7	12	14
Nodaway	41	2	.	3	134	29	12

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Oregon	32	.	3	12	20	5	.	.	.	.	.	.	2	3
Osage	21	4	1	3	25	6	4	.	.	.	.	.	.	.
Ozark	16	.	.	8	2	.	.	.	.	.	.	.	.	2
Pemiscot	.	.	.	.	1000	.	.	.	.	.	.	.	.	.
Perry	16	3	.	1	4	15	1	.	.	.	1	.	.	.
Pettis	28	2	.	9	54	11	2	.	1	.	.	.	2	.
Phelps	21	.	.	1	19	2	2	.	.	.	.	.	.	.
Pike	24	2	1	5	52	11	1	.	.	.	.	.	.	.
Platte	54	.	.	7	38	29	2	.	.	.	.	.	9	.
Polk	31	4	.	5	33	4	.	.	.	.	.	.	8	.
Pulaski	14	.	.	6	32	8	1	.	.	.	.	.	.	.
Putnam	19	2	.	7	37	12	1	.	.	.	.	.	7	.
Ralls	20	5	2	4	54	9	1	.	.	.	.	.	.	.
Randolph	13	.	.	.	11	6	.	.	.	.	.	.	.	.
Ray	23	8	.	.	38	.	.	.	.	.	.	.	.	.
Reynolds	5	.	2	7	12	5	2	.	.	.	.	.	.	.
Ripley	4	4	.	3	10	9	.	.	.	.	.	.	.	.
St. Charles	22	5	.	.	33	10	1
St. Clair	22	.	.	9	15	7
St. Francois	21	6	1	3	17	3	3
Ste. Genevieve	16	1	1	4	3	4	2

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
St. Louis	12	1	.	1	27	4	4	.	.	.	.	.	.	.
Saline	28	4	.	14	121	13	3	.	.	.	.	2	1	1
Schuyler	37	4	.	9	51	9	6	.	.	.	.	.	.	.
Scotland	20	5	1	12	88	4	3	.	.	.	.	.	.	.
Scott	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Shannon	10	.	.	3	.	.	.	.	.	.	.	.	.	.
Shelby	50	2	34	1	83	5	3	.	.	.	.	.	.	.
Stoddard	5	.	.	9	18	.	.	.	.	.	.	.	.	.
Stone	13	.	8	4	24	.	.	.	.	.	.	.	.	.
Sullivan	88	7	.	2	63	16	.	.	.	.	.	.	.	.
Taney	7	.	2	5	16	7	5	.	.	.	.	.	.	5
Texas	6	.	4	2	2	.	.	.	.	.	.	.	.	.
Vernon	35	.	.	9	56	22	7	.	.	.	.	2	4	.
Warren	18	6	1	1	25	4	5	.	.	.	.	.	4	.
Washington	6	.	.	4	8	.	1	.	.	.	.	.	.	.
Wayne	5	3	1	4	28	14	1	.	.	.	.	.	.	.
Webster	32	6	2	5	47	5	2	.	.	.	.	.	2	.
Worth	89	4	.	4	73	20	.	.	.	.	.	.	.	.
Wright	18	.	.	4	12	4	2	.	.	.	.	.	.	.
Statewide Index	25.4	3.6	1.8	4.8	35.0	8.4	2.1	0.1	0.1	.	0.0	0.2	0.8	0.2